

AD-A103 625

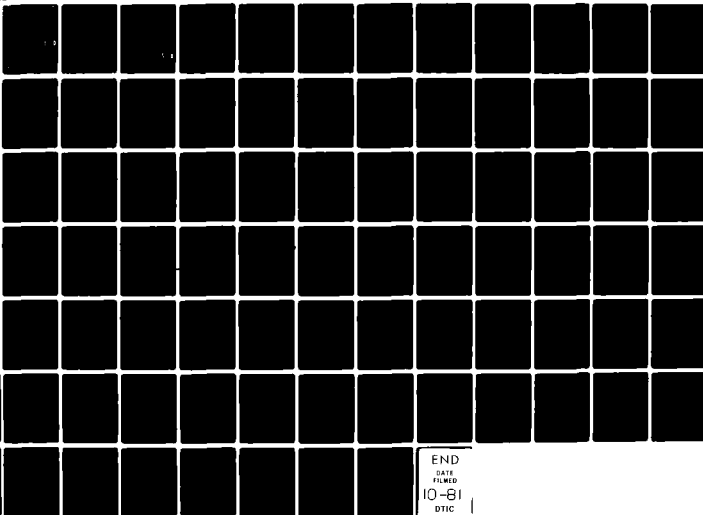
WISCONSIN UNIV-MADISON GRADUATE SCHOOL OF BUSINESS
ORGANIZATIONAL BEHAVIOR.(U)

F/G 5/10

AUG 81 L L CUMMINGS, R B DUNHAM
UNCLASSIFIED TR-1-1-8

N00014-79-C-0750
NL

For I
AD-A103 625



END
DATE
FILMED
10-81
DTIC

LEVEL II

1

AD A103625

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER TH - 1-1-8	2. GOVT ACCESSION NO. AD-A103625	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Organizational Behavior		5. TYPE OF REPORT & PERIOD COVERED Technical Report
6. AUTHOR(s) L. L. Cummings University of Wisconsin-Madison		7. PERFORMING ORG. REPORT NUMBER 1-1-8
8. CONTRACT OR GRANT NUMBER(s)		9. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NR 170-892
10. PERFORMING ORGANIZATION NAME AND ADDRESS Graduate School of Business Dr. L. L. Cummings University of Wisconsin Dr. R. B. Dunham Madison, WI 53706 Co-Prin. Investigators		11. REPORT DATE August 1981
12. CONTROLLING OFFICE NAME AND ADDRESS Organizational Effectiveness Research Programs Office of Naval Research (Code 492) Arlington, VA 22217		13. NUMBER OF PAGES 159
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release: distribution unlimited		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES To appear in Rosenzweig, Mark R. & Porter, Lyman W. (Eds.), <u>Annual Review of Psychology</u> , Vol. 33, 1982. Palo Alto, CA: Annual Reviews, Inc.		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) theoretical frameworks; task design; feedback effects; organization structure, technology, and control; methodology; cognitive processes and symbolism; effectiveness; stress; levels of analysis		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This paper reviews the literature on organizational behavior from 1970 through the first quarter of 1981 and attempts to be projective and prescriptive as well as descriptive of the work covered. Selected topics reviewed include new overviews and integrations of the field, task design, feedback, organizational structure, technology, and control, new conceptualizations and emerging topical trends. These topics were chosen to reflect both current and controversial issues of recent research. Additionally, this review attempts to bring the macro or organizational side		

DTIC
ELECTE
SEP 2 1981
D

DTIC FILE COPY

411760

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

of organizational behavior into focus and analysis and conclusions are drawn concerning theoretical and research needs. Finally, it projects the likely developments within organizational behavior.

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

ORGANIZATIONAL BEHAVIOR

L. L. Cummings

University of Wisconsin-Madison

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	

Technical Report Number 1-1-8

August 1981

DTIC
ELECTE
SEP 2 1981
S D

81 9 01 042

Reproduction in whole or in part is permitted for any purpose of the United States Government. This report was sponsored in part by the Organizational Effectiveness Research Program, Office of Naval Research (Code 452), under Contract No. N00014-79-C-0750, NR 170-892 with Dr. L. L. Cummings and Dr. R. B. Dunham, University of Wisconsin-Madison as Co-Principal Investigators.

CONTENTS

INTRODUCTION

OVERVIEWS

TASK DESIGN

Theoretical Frameworks and Current Findings

Task Design in Relation to Other Variables

Determinants of Task Perceptions

FEEDBACK

Concepts, Definitions, and Processes

Interaction and Joint Effects

Other Feedback Effects

STRUCTURE, TECHNOLOGY AND CONTROL

Organizational Structure

THE EFFECTS OF STRUCTURE

STRUCTURE AT MULTIPLE LEVELS

DETERMINANTS OF ORGANIZATION STRUCTURE

Organizational Control

The Technology of Organizations

CONCEPTUAL AND METHODOLOGICAL ADVANCES

New Theory and Basic Methodology

Cognitive Processes and Symbolism

EMERGING TRENDS

Organizational Effectiveness

Stress in Organizations

Work and Nonwork Satisfactions

Time

CONCLUSION

Improved Construct Validity

More Careful Selection and Measurement of Dependent Variables

Longitudinal and Experimental Research Designs

Appropriate Use of Multivariate Statistical Analyses

Organizational Behaviors as Social Constructions of Reality

The Symbolic Nature of Management as a Process

Processes Linking Levels of Analysis

LITERATURE CITED

INTRODUCTION

The first review of Organizational Behavior to appear in the Annual Review of Psychology was prepared by T. R. Mitchell (1979) and appeared in Volume 30. Reflecting upon that review, one is reminded of Smith's Principles of Bureaucratic Tinkertoys:

1. Never use one word when a dozen will suffice.
2. If it can be understood, it's not finished yet.
3. Never do anything for the first time.

Mitchell violated all three principles in that his review:

1. Used dozens of words, but efficiently and very meaningfully.
2. Was understood and, at least in 1979, was finished.
3. Was the first time.

The scope of this second review of organizational behavior can be better appreciated within the context of the coverage offered by Mitchell. Basically, he covered four topics and drew six conclusions about the field as follows:

- A. Personality and individual differences.
- B. Job attitudes (satisfaction, commitment, involvement, attributions).
- C. Motivation (expectancy, goal setting, equity, operant conditioning, plus new directions).
- D. Leadership (contingency model, path goal, new measures, theories, and paradigms).
- E. Conclusions:
 1. advances in theory--particularly contingency analyses;

2. advances in methodology--particularly in field and quasi-experimental designs, increasing use of path analysis and cross-lagged correlations, also increased use of simulations;
3. problems remain--low quality of theory available in most areas of organizational behavior;
4. construct validity not well established for many of the field's constructs;
5. need greater competitive testing and integration across theories;
6. need greater attention to issues of values and ethics of doing and applying organizational behavior research.

This review focuses on topics not redundant with the above. In this review, the literature from 1977 through the first quarter of 1981, inclusively, is covered. The topics selected for review are: new overviews and integrations of the field; task design; feedback; organizational structure, technology, and control; new conceptualizations and emerging topical trends. Conclusions are drawn concerning both theoretical and research needs.

These topics were chosen to reflect both current and controversial issues upon which substantial scholarship has been conducted recently. In each area reviewed, there are partially conflicting frameworks driving current research. In addition, this review explicitly attempts to bring the macro or organizational side of organizational behavior into focus and analysis. The three topics

selected which reflect this posture (organizational structure, technology, and control) are each viewed from the perspective of internal organizational characteristics. That is, each will be treated as a determinant of individual behavior within organizations. The environmental and other contextual determinants of each will be treated only lightly.

This review attempts to be projective and prescriptive, in addition to descriptive of the work covered. New conceptualizations, emerging trends, and conclusions about likely developments within organizational behavior are given weight.

OVERVIEWS

Several attempts at either integration or review of theory and controversies have appeared during the time frame covered here. Miner (1980) has described what he considers to be the major theories of organizational behavior (expectancy, goal setting, several theories of leadership, behavior modification, etc.). He has also provided very valuable evaluations of each of the theories and extends his analysis to include suggestions for future developments of theory and research in the areas selected. On the macro side of organizational behavior, Nystrom & Starbuck (1981) have edited an important two-volume collection of essays focusing on organizational design. The coverage is much broader than the usual interpretation of design however. Most of the standard topics of macro organizational behavior are included. Beyond

these, the volumes offer innovative coverage on organizational growth, regulation, control, and politics. These two volumes represent a major addition to the literature of organizational behavior and represent an invitation to scholars in the field to both integrate and extend their paradigms and topical coverages.

Controversy and extensions beyond the traditional topics of organizational behavior are the focus of a book edited by Karmel (1980) and a new series of analytical essays and critical reviews introduced by Staw (1979) and now edited by Cummings & Staw (1980, 1981). The Karmel collection pits two well known scholars, representing differing perspectives, on a topic against one another in a debate format. The theme centers on the points of theoretical and methodological controversy that currently impact each of the four topics debated. The Staw & Cummings edited series of annual essays attempts to provide a forum for the initial and conceptual contributions which establish new agendas for untracking organizational behavior from some rather unfruitful, or at least stale, directions and topics. As has been noted by Cummings (1981), these essays are articulating the uncertain and shifting nature of both the substantive content and methodological foundations of organizational behavior as it has developed over the past twenty years. The field seems ripe for new perspectives, new theory, and the accommodation of a much wider variety of methods, research designs, and analytical postures. In some sense reflecting this

need and opportunity, two new journals have commenced publication in 1980. The Journal of Occupational Behavior, edited by Cary L. Cooper and James C. Taylor, seems to have focused to date on issues of power distribution and the quality of working life.

Organization Studies, edited by David Hickson, is broader in scope and focuses upon multidisciplinary studies of organizations, the organizing process and the relations among organizations in society.

Both new journals reflect a distinctively international flavor.

TASK DESIGN

This section of the review focuses upon the literature of task design. The review is organized into three sections, each focusing upon a different theme. In general, the sections flow from a description of current knowledge on task design through an assessment of the present state of that knowledge and methodology.

Theoretical Frameworks and Current Findings

Over the last six years there have been several major attempts to integrate and theoretically expand the task design literature. As Roberts & Glick (1981) have noted, most of the work during this period has focused on one particular model of task design; namely, the job characteristics model originally developed by Hackman and his associates (Hackman & Oldham, 1980). Each of these major reviews emphasizes a slightly different theme and takes a slightly different focus on the task design literature. As noted, the Roberts & Glick (1981) review is an extremely critical assessment of the theoretical formulation and testing of the job characteristics model. A broader and earlier review of the job design literature was presented by Pierce & Dunham (1976). In that review they pointed to several significant issues which were unexplored at that time and which will be noted and reviewed in a later subsection of this review. More recently, Wall, Clegg & Jackson (1978) also have provided an evaluation of the job characteristics model. While their evaluation is less critical and less comprehensive than that of Roberts & Glick (1981), it is also suggestive of the need for expanded theoretical

frameworks and improved methodology in the study of the effects of task design.

While it is true that much of the task design literature of the 1970s was based on the job characteristics model, three significant alternative theoretical frameworks have been presented (Schwab & Cummings 1976, Steers & Mowday 1977, Umstot, Mitchell & Bell 1978). Each of these three models present alternatives to the job characteristics model. The Schwab & Cummings framework derives from expectancy theory, the Steers & Mowday formulation encompasses a number of motivational frameworks in analyzing the properties of tasks, and the Umstot et al perspective integrates job enrichment and goal setting in formulating an approach to task design. There have been two comprehensive attempts at testing and expanding the job characteristics model beyond the work of Hackman and his associates. Evans, Kiggundo & House (1979) as well as Arnold & House (1980) have provided comprehensive extensions of the job characteristics model of motivation. In particular, they have gone beyond the assumption of the four intervening psychological states which are posited in the job characteristics model. They also have utilized a framework much closer to expectancy theory with some incorporation of goal-setting concepts in these extensions and tests. Finally, Clegg (1979) has provided a searching analysis of the process of job redesign as it typically has been embedded in the above models. His opinion represents an extreme position in that it argues that most of these approaches are, in fact, largely theoretically vacuous.

As noted above, the Roberts & Glick (1981) review has provided a comprehensive analysis of the results generated through the job characteristics model. There are, however, a number of other studies which have examined the attitudinal and motivational effects of various forms of task expansion. Illustrations of these effects are those provided by Champoux (1978) in one of the few field experiments in the job design area. He basically replicated the findings of Hackman, Pearce & Wolfe (1978) in which positive job satisfaction and motivational results were found in a naturally occurring field experiment. These types of findings have been replicated in numerous other studies which have been published in the last two years (Katerberg, Hom & Hulin 1979; Orpen 1979; Taylor 1981; Bhagat & Chassie 1980). Two additional studies serve to illustrate the increasing breadth of dependent variables that have been related to task designs. Brousseau (1978) has found that two personality characteristics (i.e., active orientation and freedom from depression) are impacted by job designs. In general, the more enriched the job, the more active and the less depressed individuals appear to be. Weed & Mitchell (1980) have found that the degree of task structure has a major role on uncertainty perceptions experienced by individuals. Their findings are suggestive of the possibility of an optimum degree of task structure in relation to perceptions of ambiguity and uncertainty in employee roles. This possibility of a curvilinear relationship between degree of task structure and various employee responses has largely been ignored in the empirical literature.

Task Design in Relation to Other Variables

Task design has been examined jointly with a large number of other characteristics at both the individual and organizational levels. Much of this research has examined the moderating influence of various individual differences on task design effects. It is now generally clear that few systematic individual difference moderators have been found (White 1978a,b; O'Connor, Rudolf & Peters 1980). An array of individual differences has been examined. Most have tapped motivational and personality characteristics. Examples of studies in this genre are Stone, Mowday & Porter (1977); Stone, Ganster, Woodman & Fusilier (1979); Steers & Spencer (1977); Sims & Szilagyi (1976); Robey & Baker (1978); Oldham (1976); Ganster (1980), Mowday, Stone & Porter (1979); Kidron (1977); Kim (1980); Friend & Burns (1977); Abdel-Halim (1979) and Morris & Snyder (1979). In most of these studies, the moderating effects of individual differences were not significant. Where they were, the individual characteristics typically moderated the relationship between task design and satisfaction. Few effects are reported as moderating a task design-performance relation. This may well be partially due to the demonstrated reciprocal relation between perceived job characteristics and job satisfaction (James & Jones 1980). In general, then, enriched jobs seem to exert positive affective and behavior effects regardless of an incumbent's desire for higher order need satisfaction, need for achievement, need for autonomy, etc.

On the other hand, job tenure (Katz 1978a,b), ability (Dunham 1977, Schuler 1977), age (Gould 1979), and desire for a stimulating job

(Cherrington & England 1980) have been found to positively moderate job design effects. Given these kinds of inconsistencies in the significance of individual differences as moderators, the work of Terborg (1977) on an underlying model of individual differences is welcome. Much of the individual differences-task design interaction research has not been guided by such a theoretical model.

Situational moderators of task design effects have been studied less frequently but the results are more encouraging. Significant results have been reported by Dunham (1977) for organizational function, by Karasek (1979) for decision latitude, by Rakestraw & Weiss (1981) for social and peer influences, by Griffin (1979) for leader behavior, by Hall, Goodale, Rabinowitz & Morgan (1978) for departmental structure, by Rousseau (1977, 1978) for departmental structure and technology, by Schuler (1977) for technology and organizational structure, by Scott & Erskine (1980) for compensation, by Umstot, Bell & Mitchell (1976) for task goals, by Armenakis, Feild, Holley, Bedeian & Ledbetter (1977), for environmental variables and, finally, by Champoux (1980) for off-the-job variables. Three theoretical statements have been offered in an attempt to integrate some of these situational and contextual variables known to influence the effects produced by variations on job design (Carnall 1977; Oldham & Hackman 1980; Slocum & Sims 1980). Following upon Porter & Lawler's (1975) formulation of a congruence model of job design, two studies have attempted to test the congruence hypothesis (Pierce, Dunham & Blackburn 1979; Champoux, in press). Both found partial support for the predictive validity of a model fitting

personal, task design, and organizational design characteristics; i.e., congruence predicted employee responses somewhat better than the main effects of any single factor. Pierce (1979) also has found that the effects of work unit structure on employee responses appear to operate through task design. This finding has been generally replicated by Hackman & Oldham (1981). To some degree, then, findings may be due to a convergence of the measures of the constructs involved (Pierce & Dunham 1980).

Task characteristics also have been positioned as moderators of the effects of other independent variables. A wide range of such main effects have been found to be moderated by task characteristics, including aptitude test scores (Schmidt, Forbes & Barrett 1978; Hunter & Pearlman 1981), feedback provided by others on the job (Kim & Schuler 1979), leader behavior (Johns 1978, Griffin 1979), role overload and ambiguity (Abdel-Halim 1978), and job performance in relation to job satisfaction (Ivancevich 1978, 1979).

This embeddedness of task design and other determinants of individual responses complicates both the predictions which can be made concerning the viability of task redesign as a strategy for organizational change (Hackman 1978) and the techniques for achieving such redesigns even where feasible (Hackman & Lee 1979).

Determinants of Task Perceptions

Because of the frequent discovery of a low correlation between so-called objective task characteristics and perceptions of these characteristics (Roberts & Glick 1981), a number of recent studies have begun to analyze

the determinants of task perceptions. Several findings are suggesting that the following influence an employee's perceptions of task characteristics, frequently in interaction with the objective characteristics of the task: Social cues (White & Mitchell 1979; Weiss & Nowicki 1981; Weiss & Shaw 1979; Salancik & Pfeffer 1977, 1978; Oldham & Miller 1979; O'Reilly & Caldwell 1979); personality characteristics (O'Reilly 1977; O'Reilly, Parlett & Bloom 1980; Schmitt, Coyle & White 1978; Stone 1979). Walsh, Taber & Beehr (1980) have developed a model of the interactive effects of organizational setting and informational cues as determinants of perceived job characteristics.

FEEDBACK

The study of feedback within organizations has been active during the period of this review. Developments have occurred on several fronts, and this section will be organized to reflect these.

Concepts, Definitions, and Processes

The major work of the last decade on conceptual developments and feedback processes is the article by Ilgen, Fisher & Taylor (1979). They provide a thorough review of the literature through 1977 and integrate this literature into a model of the intraindividual processes through which feedback is hypothesized to influence individual responses. This piece provides a fruitful base for the expansion of the empirical literature on both the effects produced by feedback and the processes involved. The second major intraindividual model presented focuses on the self-monitoring processes of individuals (Snyder 1979). The research on the antecedents, moderators, and consequences of self-monitoring behavior yields several useful predictions awaiting testing within the context of organizational behavior. Self-monitoring can be expected to influence rates of task learning, the relative importance of objective versus perceived task characteristics as determinants of employee reactions and the rapidity and ease of socialization experiences as individuals cross organizational boundaries.

Building on the earlier work of Greller and Herold (1975), Herold and Greller (1977), and Greller (1980) have offered a typology

of definitions of feedback and sources of feedback from within a person's environment. They have moved beyond merely conceptual definitions and have offered empirical evidence of the dimensionality of both constructs. Their work awaits replication across samples and contexts before we can be reasonably certain of the generality of the dimensionality uncovered.

Two broader conceptualizations of the role of feedback in system change have been offered, one at the individual level and the other at the societal level. Bandura (1977) has incorporated a feedback and self-monitoring process in his behavioral model of individual change. The provision of positive feedback to change targets and its interpretation are central to a sense of personal efficacy. This sense, in turn, provides the personal stability necessary for environmental exploration and information seeking in an uncertain context. Bogart (1980) has offered a three-dimensional conceptualization of information exchange. Feedback, feedforward, and feedwithin are offered as alternative, yet simultaneously occurring informational exchanges in effective systems. While Bogart's contribution is most easily understood at the macro-systems level, the three dimensions of information exchange are applicable to understanding individual behavior. His descriptions are similar to recent conceptualizations within interactional psychology pertaining to situation-situation, situation-person, and person-person interactions.

Two recent papers have interpreted the effects of performance feedback through attribution processes (Ilgen & Knowlton 1980; Ilgen, Mitchell & Fredrickson 1981). Utilizing the basic attributional model, this work has examined the effects of feedback on the attributions made by superiors, given poor performance by subordinates. These effects are strongly influenced by the locus of attribution. The responses of the superior to this feedback are a joint function of the locus of the attribution and a number of environmental and historical cues unique to the superior-subordinate dyad. This research clearly demonstrates the complexity involved in attempting to predict the effects of feedback. Not only must one examine the form and content of the feedback per se, but attention must also be given to the attributional tendencies of the superior and the subordinate as well as situational and personal characteristics present in the interaction. There is every reason to suspect that such complex interactions of feedback and other processes operate in nonperformance contexts as well.

Interaction and Joint Effects

Feedback's effects on individual responses have been investigated in combination with a number of other independent variables. This section will review these interaction and joint effects.

One study (Komaki, Waddell & Pearce 1977) reported main effects for both feedback and participation in decision making, as well as interaction effects exhibiting greater response to feedback, given

participation. The dependent variables of concern were a number of performance indexes within the context of small business operations.

Pritchard, Montagno & Moore (1978) reported a significant interaction effect between job design (i.e., enrichment) and feedback. Adelman (1981) has found that several properties of experimental tasks influence the effects of feedback on learning of probabilistic tasks. Two studies have reported both main effects and interaction effects (with monetary savings) of feedback in the reduction of electricity consumption (Seligman & Darley 1977; Winett, Kagel, Battalio & Winkler 1978). Both studies were conducted using behavioral modification principles. Likewise, both were done in the context of real world problems, utilizing actual consumers of residential electricity; thus enhancing the external validity of the demonstrated effects.

Several investigations have reported evidence relating feedback and goal setting as independent variables. Erez (1977) reported evidence interpreted as indicating that feedback is a necessary condition for goal setting to have a positive performance effect. This finding has met with mixed replications. A number of studies have found that the presentation of either feedback or goal setting, given the other, enhances behavioral responses. Strang, Lawrence & Fowler (1978) have demonstrated this on arithmetic problems in a laboratory setting; Becker (1978) has done likewise in a study of residential energy consumption; Dossett, Latham & Mitchell (1979)

have reported generally similar results in a more complex experiment involving two types of goals (assigned versus participatively set), feedback, and individual differences; and Nemeroff & Cosentino (1979) have reported the improvement of the skill levels of performance appraisers utilizing feedback and goal setting.

Two highly relevant reviews have appeared recently. One clearly demonstrates the ubiquitous nature of the positive effects of goal setting on performance, with and without feedback (Locke, Shaw, Saari & Latham 1981). The other compares the relative performance effects of four independent variables typically utilized as performance improvement tools (Locke, Feren, McCaleb, Shaw & Denny 1980). Compensation and goals were consistently found to be more effective than participation (which can be viewed as enhancing feedback to the performer) and job enrichment.

Three well designed studies have examined the moderating effects of individual self-esteem on responses to feedback. Taylor & Slania (1981) reported that self-esteem moderates what has been referred to as the psychological success cycle. Individuals possessing high self-esteem set higher goals, perform at a higher level, and experience more positive affect when performing well than do low self-esteem individuals. In essence, high self-esteem individuals seem to gain the benefits of a self-reinforcing cycle of goals-performance-success-satisfaction-goals. Low self-esteem seems to reduce the chances of occurrence of such a cycle. Weiss (1977, 1978) has found

that persons possessing high self-esteem seek less information and social modeling from others prior to making decisions and forming judgments. Individuals low in self-esteem seem to be more dependent upon social and environmental cues in forming judgments and making decisions. They, in turn, however, also seem to respond more quickly and fully to feedback from their environment.

Other Feedback Effects

A number of single studies have been aimed at answering questions focused on the effects of specific forms and contexts of feedback. Pritchard & Montagno (1978) have compared the effects of specific versus general and absolute versus comparative feedback on both performance and satisfaction. Specific, comparative feedback seems to produce the greatest information and contribute most to response effects. Fisher (1979) has confirmed that superiors tend to distort information when sending negative feedback to low performing subordinates. They also show greater reluctance to provide negative feedback as evidenced by increased latency relative to that found when providing positive feedback. Conlon (1980) has found that the longevity of a planned change in behavior is a function of the form and amount of feedback provided to individuals concerning the personal and organizational outcomes associated with such change.

Hanser & Muchinsky (1978) have provided a theoretical model of the nature of work which emphasizes the informational nature of work and its typical contexts for the individual. Work and its

achievement provide a number of important feedback cues to individuals concerning their self-images, social standing, and anticipated organizational rewards.

The effects of feedback on groups have been carefully reviewed by Nadler (1979). One important, subsequent study has found that group members form impressions of their group's processes based primarily on feedback cues about the group's performance. These performance cues weighed more heavily in group members' perceptions of process than did either the actual nature of the processes themselves or the degree of familiarity among group members (Binning & Lord 1980).

STRUCTURE, TECHNOLOGY, AND CONTROL

This section reviews the material on three of the more macro variables of organizational behavior. Here we examine the recent literature linking behavior and attitudinal reactions within organizations to organizational structure or design, technology, and formal control systems. Along with leader behavior, reviewed by Mitchell (1979), and task design, these represent the major sources of environmental structure impinging upon an organizational participant. The three general questions addressed in this review regarding these sources of structure are: how is the conceptualizing of these constructs changing, what effects do these sources have on participant responses, and what accounts for systematic variations in structure?

Organizational Structure

In this subsection of the paper we will review the literature on several issues relating to the impact of organizational design. The first issue, in many ways the most central, centers upon the dimensionality of organizational structure and associated concerns with the measurement of structure. There have been major theoretical, and the beginnings of empirical, work on the question of the dimensionality of organizational structure. Ranson, Hinings & Greenwood (1980) have provided a major theoretical piece in which they argue that the structuring of organizations is a more important and relevant dependent variable than the more static and mechanistic concept of the structure of organizations. Their work has provided a very meaningful input into the recent empirical investigation completed by Blackburn & Cummings (1981).

Blackburn & Cummings have found that the empirically derivable dimensions of structure, when utilizing participants' perceptions of structure, overlap little with the dimensions derived from traditional bureaucratic theory. The Blackburn & Cummings methodology centers on a social definitionist orientation toward the generation of knowledge with the minimum imposition of dimensionality from the researcher's theoretical or measurement bias. Meyer & Rowan (1977) have gone even further in a theoretical contribution arguing that the real institutional or formal structure concept in the organizational literature is basically a myth and an organizational ceremony. That is, the actual structuring of participants' responses is provided by the consistent myths and stories that are generated and transmitted in organizations over time. The tangible, physical, or formal structure is mostly a manifestation and articulation of these myths and stories. The realities of structure exist more in the myths and ceremonies than they do in the formal organizational designs.

A related body of literature appeared in the late 1970s focusing upon the actual assessment of given dimensions of structure. Dewar, Whetten & Boje (1980) provided the most thorough empirical study to date assessing the Aiken & Hage scales of centralization, formalization, and task routineness. In general, their assessment of the reliability and validity of these scales indicated that the scales were highly variant in their degree of reliability and validity and raised serious questions about the use of the scales in the assessment of organizational structure. Even more fundamentally, both Ford (1979) and Sathe (1978) have examined

the usefulness and psychometric properties of the two major types of measures of organizational design which have impacted the literature. They compared measures of structure based upon questionnaire responses with those based upon institutional records or the counts of institutional demographics. While Sathe (1978) was highly critical of the questionnaire measures relative to institutional measures, Ford's data positions the two measures of structure as much more equivalent and as not necessarily indicating contrary structures in the same organization. An even more far-reaching implicit criticism of the traditional measures of organization structure has been provided by Moch (1980). He argues that the real structure of organizations is to be found in the networks of integrated relationships among employees within an organization. He argues further that most assessments of organizational design have not tapped this systematic integration of employee networks and have, therefore, missed one of the major sources of environmental structuring from the employees point of view.

The relationship between organizational size and structure and their combined effects on a number of employee responses continued in the late 1970s as an active research area. Kimberly (1976) reviewed the evidence concerning organizational size in relation to structure. In general, his review indicated that while size does exhibit some systematic relationships to organizational design, it is not to be considered as the primary determinant of variations in design and that size has been overemphasized as a covariant of organizational design in much of the theoretical literature as of that date. An important question in

the assessment of size has to do with the relative validity and relationship among several measures of organizational size. Agarwal (1979) reported very low correlations among a number of different measures of size of an organization. His work is important because it points to the tenuous generalizability of studies of the effects of organizational size which are based on different indicators of size. Dewar & Hage (1978) have provided the richest theoretical statement to date relating organizational size, technology, complexity, and other indicators of structural differentiation. Their work is of major scope in that it positions size, technology, and the scope or breadth of an organization's tasks as major factors influencing the design of an organization. The work on the empirical relationship between size and structure has continued to date as reflected in the research of Glisson & Martin (1980) as well as Dewar & Simet (1981). The former have reported one of the few studies of the productivity and efficiency in human service organizations as a function of organizational size. Their work clearly shows that size is positively related to organizational efficiency in the public sector. Dewar & Simet (1981) on the other hand, argue that it is necessary to look at level-specific predictions; that is, predictions contingent upon the hierarchical level of an organization when examining the effects of organizational size and other characteristics on span of control within that organization. In other words, Dewar & Simet clearly indicate that generalizations about the effects of size on organizational structure through span of control are at least partially a function of the hierarchical level within the organization

which one is addressing.

THE EFFECTS OF STRUCTURE The effects of organizational structure on human responses have been reviewed three times within recent years. James & Jones (1976) carefully reviewed the literature on the dimensionality of structure as well as the theoretical literature relating structure to employee attitudes and behaviors. More recently, Berger & Cummings (1979) reviewed the empirical literature on the relationship between organizational structure and employee attitudes and behavior. Both of these reviews were highly critical of the existing theoretical and empirical literature on the grounds of theoretical ambiguity, poor psychometric properties of measuring instruments, and inappropriate research designs and analytical procedures, given the complexity of the structure-employee response relationship. More recently, Dalton, Tudor, Spendolini, Fielding & Porter (1980) have reviewed the empirical literature relating organizational structure and indicators of employee performance. Once again, their review is critical and suggests similar problems to those noted by James & Jones (1976) and Berger & Cummings (1979).

Work does continue relating organizational design to a number of dependent variables. Most of this work is still subject to the same criticisms that the above reviews have noted. Several empirical pieces have, however, attempted to deal with one or more of these problems and are noteworthy in that regard. The following studies are representative of this progress and have related structure to a more innovative and changing set of dependent variables. Dependent variables that have

been examined with these improving studies are:

1. The personal characteristics of administrators (Pfeffer & Salancik 1977).
2. The communication networks and systems with an organization (Bacharach & Aiken 1977).
3. The leadership style and participation behaviors of leaders (Jago & Vroom 1977).
4. A number of job attitudes and climate perceptions, including job satisfaction and work motivation (Adams, Laker & Hulin 1977).
5. The compensation associated with different hierarchical positions (Mahoney 1979).
6. The role conflict and ambiguity of different occupational groups (Morris, Steers & Koch 1979).
7. The amount of perceived environmental uncertainty by persons in boundary-spanning roles (Leifer & Huber 1977).
8. The perceptions of conflict and satisfaction by employees (Dewar & Werbel 1979).
9. Employee attitudinal and behavioral reactions to open-plan office physical arrangements (Oldham & Brass 1979).

STRUCTURE AT MULTIPLE LEVELS Theoretically some of the most sophisticated recent work has focused on the issue of the degree to which congruence or fit among measures of structure at the level of the task, the work unit, and the overall organization predict performance and other employee responses. There have been two major attempts to empirically address this issue. The first was reported by Schuler

(1977) and found that congruence between task structure, organization structure, and measure of technology reduced role conflict and ambiguity of participants in the organization. As the lack of fit between these three dimensions increased, employee expressions of conflict and role ambiguity increased accordingly. More recently, Pierce, Dunham & Blackburn (1979) have, in general, supported a congruence model incorporating measures of a systems structure, job design, and individuals growth need strengths. Their work is very suggestive of continued research on the employee response effects produced by congruent sources of structuring in the work environment.

There also have been a number of theoretical works calling for and examining the need for a multiple-level assessment of structure. Most significant in this regard have been the works by Ouchi & Jaeger (1978) calling for the simultaneous study of organizational structure and control systems as congruent and mutually interdependent constructs. Aldrich & Herker (1977) have also argued for the utility of examining subunit structures in relationship to their particular environments. Their argument is essentially that studies of overall organizational design do not capture the complexity needed to understand the relationship between differentiated subunits and the environments within which those subunits interact. It is clear that Aldrich & Herker (1977) are implying that a full understanding of the effects of organizational structure is dependent upon the simultaneous examination of multi levels of structure that exist within any one organization. Pitts (1980) has taken this argument even further and argued that the appropriate

strategy for theorizing about organizational structure is to examine structural differentiation across organizations within a contingency framework where the primary contingencies are environmental uncertainty and the nature of market structures within which the organization is operating. A very similar theme was espoused by Miles, Snow, Meyer & Coleman (1978) in arguing that the appropriate understanding of organizational structure can only be realized when structure is examined in relationship to organizational goals and strategy on the one hand and organizational processes utilized to implement that strategy on the other. Clearly, this position takes the congruency and contingency notions out to the level of organizational-environmental strategic relationships. Finally, there have been two persuasive arguments made that the distinction between micro and macro indices of organizational structure is at best artificial and perhaps, at worst, inappropriate. These arguments have been made by Nightingale & Toulouse (1977) and Mealiea & Lee (1979). Both papers argue for a multi-level congruence model of organizational structure and explicitly argue for down playing the traditional differentiation between micro or task structure and more macro or overall organizational design.

DETERMINANTS OF ORGANIZATION STRUCTURE One major review of the literature on the correlates and determinants of organizational structure appeared in 1977 (Ford & Slocum 1977). They offered a careful review of the literature and a theoretical integration of the relationship among organizational size, technology, and environment as impacting the structure of organizations. There have been a number of attempts since 1977

to examine particular correlates of organization structure. The issue continues to be actively explored and a number of characteristics at various levels of analysis are being examined as covariates of structure. Representative of this work are studies by Katz & Tushman (1979), Daft & Bradshaw (1980), and Beyer & Trice (1979). These studies share the common characteristic of looking at the task characteristics of an organization and the size of an organization as determinants of structure. This intersection between task characteristics and size as covariates of structure continues to appear to be a worthwhile avenue of pursuit. At a different level of analysis, Allen (1979) has examined the characteristics of top managers as determinants of organizational design. In particular Allen (1979) positioned the usual contextual determinants of structure against these top management characteristics and found that these managerial characteristics were a more important source of structural variation than the contextual variables. Characteristics examined by Allen included top management's personal goals, desires, and beliefs concerning organizational function and individual careers.

A number of scholars have continued to examine characteristics of the environment external to the organization as determinants of organizational design. Representative work in this regard is that of Tung (1979); Bourgeois, McAllister & Mitchell (1978); Daft & Macintosh (1981); Tushman (1979); and Fennell (1980). In each of these cases the researcher has examined some characteristic of an organization's environment (e.g., environmental turbulence, complexity, or the

clustering of organizations in the environment) in relationship to the organization structure. In general, the hypothesis that environmental change, turbulence, and complexity cause increases in organizational differentiation and integration mechanisms has been supported by this broad stream of work. While these studies have not been systematically related to one another and, generally, have not been cumulative, the totality of the evidence across researchers, types of organizations, and methods does lend credence to the generalizability of the general nature of the findings.

Finally, there have been two recent examinations of the role of culture as a determinant of organizational structure. Maurice, Sorge & Warner (1980) found major differences in the organizing and manufacturing units across France, West Germany, and Great Britain. They interpret this data as indications of cultural or societal differences impacting organizational design. In a major theoretical piece, Child (1981) has argued that culture, contingency (that is, environmental and technological determinants) and economic system (capitalism versus socialism) each impact the organizational designs that one should expect to find across national cultures. Child's paper is a major attempt to disentangle the relative effects of the sources of across national variation in organizational design. The theoretical richness of the paper should lead to its utilization as a guide for cross-national research on organizational structure.

Organizational Control

The area of the control of and predictability of participant responses in organizations has been undergoing a rather major change in recent years. This is reflected in several major theoretical pieces that posit a much broader conceptualization of organizational control and control mechanisms within organizations. For example, Ouchi (1979) has described a series of control mechanisms that are used in organizations wherein the central issue is the equitable distribution of rewards among members of the organization. The primary concern in developing such control systems is to provide mechanisms for solving evaluation and control issues such that the consequences of applying these mechanisms achieve perceptions of equity among participants. Ouchi goes on to elaborate on the consequences of different organizational control strategies for organizational structure and design. Ouchi (1977, 1980, 1981) has elaborated this theme in two primary ways. He has described a total management system that is based upon this notion of control when coupled with concepts of trust and organizational loyalty. He elaborates this theme in the form of describing a Theory Z organization which attempts to capture the best of both the Japanese and American models of organizational control and coordination. Ouchi also has developed a trichotomy of control mechanisms only one of which centers on the traditional bureaucratic form of organizational coordination. The other two mechanisms of coordination and control among organizational participants centers on market or competitive mechanisms on the one hand and social or clan-like mechanisms on the other.

Two recent contributions have focused on the concept of control defined as the control over contingencies or over dependencies. Both Pfeffer & Salancik (1978) and Hambrick (1981) have described the development of organizational processes and structure as largely a function of dependencies of the organization upon external forces and the implications of such dependencies for internal organizational power distributions, hierarchies, and control mechanisms. These approaches to the conceptualization of organizational control are rich with implications for the linking of processes across organizational units and between organizations and the environments with which they interact.

Two rather novel approaches to internal control of participants' behavior have been developed recently. Weiss (1977) has conceptualized internal control as primarily a combination of socialization and behavior modeling processes. He has studied this in the context of the similarities of behaviors within subordinate and superior pairs. He has found that one characteristic of the subordinate (i.e., self esteem) tends to moderate the relationship between these perceived similarities and a number of behavioral outcomes. Cherns (1980) has recently argued that a processes approach to intervention in organization development has not been effective in increasing participant organizational control. He advocates a more structural orientation toward increasing organizational control with organizational design and technological interventions as the primary change strategies to implement such.

Finally, two broadly based and very encompassing reviews of the psychological control literature as it pertains to organizational

behavior have appeared recently. Dachler & Wilpert (1978) have interpreted the broad literature on participation as essentially a control mechanism. Their work is important because it provides a multidisciplinary examination of both the conceptual dimensions of participation and the boundaries of participation as a control vehicle. Kerr & Slocum (1981) have recently reviewed a number of mechanisms that organizations utilize to increase the control and predictability of individual variations in employee responses. Their contribution is important primarily because it points to the wide range of typical independent variables in organizational behavior that can be interpreted as organizational control devices.

The Technology of Organizations

Organizational technology has been examined as a causal or independent variable in relationship to a number of dependent variables. Beginning at the individual level of analysis, Rousseau (1978) has found several measures of technology to be good predictors of variations in employee attitudes. Sutton & Rousseau (1979) expanded this framework and examined technology in relationship to organization structure and interorganizational relationships as determinants of individual responses. Again, within this comparison, technology appears to be an important correlate of the number of behavioral and attitudinal responses. Rousseau (1979) has placed these and other findings within the context of a theoretical interpretation. She calls for an expanded conceptual examination of technology to include not only closed systems approaches, as is typical,

but also to examine the implications of open systems logic for the assessment of technology.

Two studies have examined organizational structure as a function of technology. Comstock & Scott (1977) have found that the key issue in predicting structure from technological variation is one of compatible levels of analyses. They found that technology at the organization-wide level predicts macro or global organization structure. On the other hand, the technology of subunits within complex organizations predicts the design of those subunits. Overall, Comstock & Scott (1977) report that technology is a more significant predictor of organizational structure than is organizational size. Reimann (1980) has also examined the relationship between technology and organizational structure at two levels of analysis. He found that system technology predicts system design characteristics while the technology of the work flows within an organization predicts subunit design. These two studies combined clearly indicate that, in the prediction of organizational structural variations, it is important to focus on the technological characteristics at a similar level of analysis.

Two studies have also examined technology as a predictor of job characteristics. Billings, Klimoski & Preaugh (1977) have conducted one of the few time series studies examining the impact of a change in technology on job characteristics. Their general finding is that changes in technology over time have an effect on the structure of work, on the social structure among workers, and on the job satisfaction of workers. Dowell & Wexley (1978) also have examined the effects of

technology on jobs. In this study, the jobs in focus were those of supervisors and Dowell & Wexley (1978) report few technological effects. The structure of leaders jobs was found to be stable across different technologies as well as across different organizational functions.

Finally, in one of the more interesting studies examining technology and independent variables, Vardi & Hammer (1977) found that the rates and directions of personnel mobility within organizations is a function of the technology within which these personnel work. In general, more loosely defined technologies generate higher rates of personnel mobility than do more tightly defined and rigid technologies as typically found in large-scale manufacturing organizations.

CONCEPTUAL AND METHODOLOGICAL ADVANCES

This section will focus on several conceptual or theoretical and methodological advances that have influenced the contents and methods of research across several areas within organizational behavior. In each case, the nature of the contributions will be discussed first followed by illustrations of their utilization.

New Theory and Basic Methodology

Several authors have contributed by offering either new theoretical frameworks or emphasizing the necessity for attention to fundamental issues of research method and design. In 1978 Staw & Oldham (1978) called for a major reconsideration of the dependent variables typically examined in organizational behavior. A few theoretical works have responded, indirectly, to this call. Leading the theoretical contributions is a major, new theory of behavior in organizations by Naylor, Pritchard & Ilgen (1980). I have reviewed this book elsewhere and will not repeat the details of that evaluation here (Cummings in press). The book represents a thorough articulation of a cognitive theory of choice and behavior with illustrations of usefulness being offered in the analysis of organizational roles, motivation, leader behavior, and our old friend "organizational climate." A leading theoretical treatise on the macro side is Hage's (1980) analysis of the form (structure), processes, and transformation of organizations per se. His emphasis on the development and testing of formal hypotheses and interrelated

sets of propositions is a welcome addition to the macro organizational behavior literature. Bandura (1977) has developed the concept of personal efficacy and argued forcefully for its application to several areas of traditional interest in organizational behavior with particular focus being given to strategies for changing behavior within organizational contexts.

Several others have called for more rigorous processes of theorizing, with particular focus on the development of middle-range theories, taxonomies, and construct validation attempts (Pinder & Moore 1979, 1980; Schwab 1980). These calls have been coupled with one major attempt at specifying the conditions and issues constraining the development of an interdisciplinary science of behavior in organizations. Particular concern has been given to methods and designs for conducting research across levels of analysis and aggregation and on dynamic phenomena (Roberts, Hulin & Rousseau 1978). Hunter and Gerbling (in press) have provided a major explication of the conditions necessary for modeling such dynamic phenomena and the analytical paradigms for adequate testing of such. Of course, there are those who would argue that the emphasis upon more carefully and highly constructed methods and models for assessing dynamic phenomena is essentially misplaced (Susman & Evered 1978). Their position is that the adequate study of change in variables in real settings involves "action" research. This, in turn, calls for less positivistic research strategies.

Developments along these lines are receiving increasing attention within the discipline and are being utilized by established scholars to study both traditional and newer substantive content areas within organizational behavior (Van Maanen 1979). One of the most promising of these combines the writing of organizational biographies and historical analysis of archival data as nicely illustrated in the work of Kimberly (1979).

Beyond established theory and method, several authors are calling for major paradigm shifts for the 1980s in the study of organizational behavior (Benson 1977, Brown 1978, Pondy & Mitroff 1979, Morgan 1980) and of organizations per se (Hannan & Freeman 1977). It remains unclear whether these calls will be heeded and reflected in systematic and programmatic research.

Cognitive Processes and Symbolism

One very clear development of the late 1970s has been the emergence of several streams of research heavily influenced by the cognitive reformulation of both established substantive topical areas and the formulation of new areas utilizing developments in cognitive psychology. These developments have added new zest and intellectual excitement to several areas. The most important is the use of attributional processes to study leadership effects (Mitchell, Green & Wood 1981; Mitchell, Larson & Green 1977; Mitchell & Wood 1980; Green & Mitchell 1979) and to study situations in terms of the attributions made by observers regarding the importance of

leadership (Staw & Ross 1980). While it is obvious that attribution is a well established construct in social psychology and personality theory, its status as a facilitating theoretical framework within organizational behavior seems to be at its peak presently (Kelley & Michela 1980).

A second, equally fruitful recent development has been the utilization of information processing theory and research to enlighten several phenomena of traditional interest in organizational behavior. Representative interpretations are those of organizational design (Tushman & Nadler 1978), organizational entry (Louis 1980), organizational climate (James, Gent, Hater & Coray 1979), leadership (Weiss 1978), motivation (Zedeck 1977), organizational strategy (Tussle & Gerwin 1980), task design and job attitudes (Salancik & Pfeffer 1978), stress (Sarason & Sarason 1979), performance appraisal (Feldman 1981), and organizational design and communication (March & Feldman 1981). In most of these utilizations, individual cognitive processing has been positioned as a major intervening variable between contextual or environmental cues and either individual or organizational responses. This work on cognitive processing of stimuli comes as close as organizational behavior has come to date in understanding the processes which underlie so many of the functional relationships central to the discipline. As will be emphasized in the concluding section of this review, this contribution bids well for further incorporation

of cognitive constructs within organizational behavior.

Attitudes as schema for interpreting events in organizational life and as a basis for the construction of personal and shared causal maps has also recently been emphasized in both theory (Calder & Schurr 1981) and research (Bougon, Weick & Binkhorst 1977). One of the most creative applications of the treatment of individual cognitive complexity as an attitudinal or dispositional construct has been Suedfeld & Rank's (1976) analysis of the success and survival of revolutionary leaders utilizing historical, archival data.

One important development in the study of decision making which reflects this cognitive orientation has been the emergence of problem finding, problem defining, and problem formulation (as distinct from problem solving) or researchable processes. Cognitive processes have been found to significantly impact both the pre-decisional phases of decision making (Payne, Braunstein & Carroll 1978) and the conscious recognition and subsequent articulation of problems and decision opportunities (Alexander 1979, Lyles & Mitroff 1980). In addition Stabell (1978) has reported data linking the problem formulation stage of decision making with later phases (e.g., alternative generation and the assessment of consequences) through cognitive processes.

The role of symbols as objects of inquiry and of symbolism as an organizational and managerial process has recently emerged to

guide several theoretical statements. We can expect to see an emergence of empirical research in the 1980s utilizing this approach to understanding organizational behavior. Reflective of current theorizing are the interpretations of managerial actions as mostly symbolic or representational (Pfeffer 1981), the analysis of organizations per se as language systems as opposed to logical arrangements of structural components (Daft & Wiginton 1979), and the symbolic reinterpretation of many macro organizational phenomena (Dandridge, Mitroff & Joyce 1980). While the descriptions of organizational and managerial symbols as representing hierarchy and power differentiation have been commonplace in organizational behavior, the systematic study of the processes of symbol creation and transmission have not. Furthermore, we can look forward to increased research on the functions served and consequences produced by the management of symbols within organizations.

EMERGING TRENDS

Four areas of substantive research and theory have emerged or re-emerged in the late 1970s which are likely to continue to accelerate as foci of scholarship. Present work in each will be described briefly and an attempt will be made to project the general nature of emerging work. The four areas are: organizational effectiveness, individual stress within organizations, the relation of work and nonwork experiences and their contributions to the quality of an individual's life, and, finally, the study of time as an important main and moderating effect in understanding behavior in organizations.

Organizational Effectiveness

Of course, concerns about and the general study of organizational effectiveness are not new. Economics, general management theory and operations research, among others, have attempted to model and prescribe organizational effectiveness for several decades. What is new and rapidly emerging is the descriptive empirical study and behavioral theorizing about the dimensions and determinants of organizational effectiveness.

Effectiveness can be and has been conceptualized at many levels of analysis and aggregation. While the emphasis here is upon organizational behavior perspectives on effectiveness, it should be noted that this focus is not exclusively on the effectiveness of individuals within organizations. Rather, this individual

perspective is complemented by models of organizational effectiveness that assume the group, the between-group unit, and the organization per se are the most appropriate unit of analysis.

One current theme in this literature is an argumentation concerning the viability of organizational effectiveness as a construct susceptible to scientific analysis (Pennings & Goodman 1977). Some would argue that the overall construct is too global, too multidimensional, and too ideological to be subject to scientific inquiry without substantial addition construct validation and domain clarification. Of course, others disagree and have offered reviews and integrations of present definitional controversies as well as suggestions for needed research (Steers 1977).

Several authors have reviewed and critiqued the quality of work to date on organizational effectiveness (Steers 1977, Scott 1977). In general, these critiques point to the need for a closer connection between theory, operational definitions, and research methods as well as the need for longitudinal designs examining the determinants of effectiveness across organizations and organizational families or clusters. At the most fundamental level, one is struck by the diversity and even incompatibility of perspectives taken toward understanding the effectiveness of organizations (Goodman & Pennings 1977, Cunningham 1977).

Attempts to tackle these problems and to position

organizational effectiveness as a researchable topic are being made. Most impressive in this regard is the work of Cameron (1978, 1981). He has empirically examined the dimensionality of effectiveness of universities and colleges and has both built and tested theory concerning the determinants of effectiveness within this domain. Others have begun to point to the importance of organizational effectiveness as a scientific concept in advancing our understanding of corporate strategy (Kirchhoff 1977). Schneider and his colleagues (1980) have reported the results of an empirical assessment of organizational effectiveness through the combined perceptions of the employees and customers of banking organizations. Their definitions and operationalizations represent a major contribution to the assessment of organizational effectiveness through the individual level of analysis. Their treatment of issues of aggregation and the careful use of perceptual measures of effectiveness are a significant advancement. Molnar & Rogers (1976) have empirically examined and contrasted two of the dominant theoretical positions defining organizational effectiveness, i.e., the goal and system resource models. These, then, represent the major attempts to move beyond definitional arguments and pessimistic predictions about the usefulness of the concept. Two clear statements of possible research agendas for continued work have been offered by Cameron (1980) and Connolly, Conlon & Deutsch (1980). The common themes of these more optimistic positions center on

the need for systems and contingency conceptualizations of effectiveness, longitudinal designs, and multidisciplinary perspectives.

Stress in Organizations

The work on stress is abundant; yet fully developed models of organizational contributors to stress are only beginning to guide research. Two major theoretical statements in this regard have recently appeared (Ivancevich & Matteson 1980; Brief, Schuler & Van Sell 1981). Both combine organizational determinants (e.g., role overload, conflict, and ambiguity) with individual behaviors and personalities in building predictive models of the occurrence of stress. In addition, both attempt to come to grips with the difficult definitional issues necessary for distinguishing among the constructs frequently used in discussions of stress (e.g., stressors, stress, outcomes of stress, and moderators of such outcomes).

Several research programs have produced many bivariate, correlational findings relating organizational and personal characteristics to perceptions of stress and behavioral coping strategies used in managing stress. The resulting studies have been reviewed and critiqued by Beehr & Newman (1978) and Newman & Beehr (1979). The most comprehensive and theoretically linked review of the current literature has been provided by Cohen (1980). He reviews the results of research on several stressors across both behavioral and social outcomes. While Cohen's review

is not restricted to examining the effects of stress within the organizational context, his theoretical interpretations of the consistent findings in other contexts are central to our future work on stress in organizations.

Two attempts have been made to broaden the organizational domain of stress effects even further. Spector (1978) has creatively interpreted several of the stress studies as indexes of frustration caused by organizational constraints and procedures. He has provided a model within which he interprets and critiques that literature as a special case of the individual frustration-aggression hypothesis. His model is particularly suggestive of work that is needed on industrial sabotage and general employee alienation within the work setting. Jamal & Mitchell (1980) reviewed the literature on work- and nonwork-related factors contributing to mental health, concluding that variables in the work context generally contribute more to positive mental health than nonwork contextual factors. Many of these work-related variables are conceptually similar to the most frequently cited stressors. Clearly, the findings of Jamal & Mitchell (1980) challenge the generally accepted notion of work as a contributor to psychological stress. It is highly likely that the continuing research on stress will find that the relation of work-related variables and stress is curvilinear and highly contingent upon an individual's nonwork environment.

Work and Nonwork Satisfaction

The questions of the degree of independence of work and nonwork satisfactions and the contributions of each to life satisfactions are emerging as an active research interest. A recent thorough review of the literature to date is highly likely to focus the attention of organizational behavior scholars in the 1980s (Kabanoff 1980). This review contrasts compensation, generalization, and segmentation models of the relation between work and nonwork experiences and offers suggestions for research methods and theoretical frameworks needed to disentangle the relative effects of factors in each domain. Near, Rice & Hunt (1980) have offered a more narrowly focused review examining the relation between the social systems of the nonwork and work environment. They conclude that the social systems of the two domains are much more closely linked and interdependent than is normally thought. Friendship roles, status and privilege systems, and general behavioral styles are frequently found to be generalizable across the work/nonwork boundary.

Several recent studies have focused specifically on the relation of work (or job) satisfaction to nonwork (or leisure) satisfaction. Orpen (1978) reported evidence that satisfaction with factors at work impacted satisfaction with factors in the nonwork environment more than the reverse direction of causality. Orpen's study is one of the few allowing any conclusions concerning the

directionality of causation between work and nonwork satisfactions.

Three studies have related work and leisure satisfaction to either one another and/or to a more global concept of life satisfaction (or quality of life). Near, Rice & Hunt (1978) examined the work and nonwork correlates of both general life satisfaction and job satisfaction. They report little overlap between life and job satisfaction and little overlap among their respective correlates. They offer the richest conceptual model available to date hypothesizing the composition of life satisfactions to be three-fold, i.e., satisfaction with home, satisfaction with job, and physical health. In turn, each of the three dimensions is hypothesized to be related to second-order variables within each of the three domains. London, Crandall & Seals (1977) have reported that both job satisfaction and satisfaction with other dimensions of life contribute to individuals' perceptions of the quality of their lives. However, significant differences were found between so-called advantaged and disadvantaged groups of respondents. Disadvantaged persons report work satisfaction to be less important in their assessments of life's quality. Contrary to the Near et al (1978) findings, Schmitt & Mellon (1980) have reported that life satisfaction contributes more to job satisfaction and the reverse. Clearly, such contradictory findings call for much richer theory and more complex contingency frameworks. Suggestive of the complexity involved, at least at the individual level of

analysis, is the work of Dubin & Champoux (1977). They report data showing that job satisfaction can be clearly predicted from clusters of an individual's central life interests. In particular, the degree of centrality of work within an individual's overall interest profile is significantly correlated with the degree and focus of satisfactions derived from the work context. Persons for whom work is not a central life interest exhibit much less predictability in the satisfactions derivable from their jobs.

Time

Time has been neglected as a major theoretical construct, particularly as a causal variable, in organizational behavior. Several recent works suggest that this neglect is disappearing. Albert's (1977) reformulation of social comparison theory into a model of temporal comparisons, while focused on social psychological and personality issues, is rich with hypotheses testable within the context of organizational behavior. In particular, his work represents a promising avenue for reformulation of equity and relative deprivation as partially temporal phenomena and as within individual comparisons.

Both Pfeffer & Lawler (1980) and Alderfer & Guzzo (1979) have explicitly included the passage of time as an important variable in explaining individual commitment to organizations and the shifts in the relative importance of individual desires throughout the life cycle. At the organizational level of

analysis, Miller & Friesen (1980) have presented and creatively tested, with archival data, a model of several patterns of organizational transitions. Their model incorporates assumptions about the continuous (versus discrete) nature of time, about the time lags for organizational disruptions and creations to occur, and about the time periods needed for organizational transitions to stabilize.

Katz (1978) examined the empirical effects of an individual's time in a job and in an organization on the relation between the characteristics of an individual's job and the satisfaction associated with the job. The relative importance of various job characteristics in contributing to job satisfaction varied systematically with both time durations. Clearly, this work possesses significant implications for sampling and implementation in job design/redesign research and application. Katz (1980) has also elaborated upon the centrality of time in understanding both the nature or meaning of work to individuals and reactions to work. This theoretical statement on time and work provides an important base for future research on the role of time in organizational behavior.

CONCLUSION

Looking across the topics reviewed, seven needs seem to emerge as likely candidates for attention in the 1980s in organizational behavior. They capture both methodological and paradigmatic concerns within the discipline. These needs and likely trends have been elaborated elsewhere (Cummings 1981) and will be highlighted here as derivative from the literature reviewed.

Improved Construct Validity

Probably the most important advancement likely in the 1980s will be the improved construct validity of many of the measures that we use within our field. Just a few examples will suffice to indicate that trends in this direction are beginning to appear. First, as noted earlier, the construct of task design has received considerable emphasis in the latter half of the 1970s. Much of this emphasis has been upon clarification of the relationships among constructs such as perceived characteristics, objective characteristics, personal needs, and work unit structure. I would argue that this development has been essentially an exploration of construct validity as it applies to one of the central concepts in our discipline.

A second area of great importance within organizational behavior focuses upon organizational structure and design. As we all know, the study, and more particularly the results produced by the study, of organization structure has been a major disappointment for many

of us working within organizational behavior. I would argue that one of the central reasons for this disappointment has been inadequate attention devoted to questions of construct validity in the study of organizational structure. Several authors have recently noted this problem and have suggested that it may be reasonable to be optimistic about movement toward more construct-valid assessments of organizational characteristics.

More Careful Selection and Measurement of Dependent Variables

I expect that we will see in the decade of the 1980s less attention given to several of the common or standard dependent variables upon which much of organizational behavior has focused its attention. For example, studies predicting dependent variables such as absenteeism, turnover, and attitudes on simple jobs will decrease in frequency.

A different set of dependent variables appears to be emerging as central to the research programs of several active scholars in organizational behavior. Examples are the focus upon the consequences to individuals and organizations of alternative task designs; the determinants of the perceptions of jobs as assessed through the incumbents of those jobs; the study of the perceptions of organizational structure and design processes as a conceptually distinct variable from the physical design or the objective design of that structure; the study of the determinants of feedback seeking, as well as the study of stress and time as central causal variables

in explaining behavior in organizations.

The focus upon these slightly changing dependent variables will remain one of increased validity and reliability of measuring instruments and a more careful and rigorous use of theoretical paradigms to study these variables. It may well be that the paradigms used in such studies will draw increasingly from established fields within psychology but outside of the usual boundaries of organizational behavior. Particularly likely candidates in this regard are theoretical frameworks from the fields of personality and social psychology. Organizational behavior has, from its beginnings benefited from the creative use of concepts from these disciplines. The time is ripe for a new infusion of constructs and theory into organizational behavior. Clearly the process has begun with the utilization of attributional frameworks, cognitive psychology, and interactionalist perspectives.

Longitudinal and Experimental Research Designs

A third area that will surely see increasing emphasis and utilization during the 1980s will be the careful use of longitudinal and experimental research designs as applied to areas where such designs have been lacking in the past. There is clearly a continuing interest in establishing the cause-and-effect relations that exist among variables and within networks of variables within our discipline. Of course, this concern with establishing causal relationships has been a continuing concern in our field for many years.

The use of research designs that have some chance of eliminating causal hypotheses will be applied to an increasing number of established research areas within organizational behavior. Each of the areas reviewed here are candidates for such improvement. It is likely that by the mid-1980s being longitudinal will no longer possess the distinctiveness as it does presently. Being either experimental or longitudinal will be much more typical of the research of the 1980s. The next hope is for increasing proportions of research in organizational behavior to derive from and contribute to theory.

Appropriate Use of Multivariate Statistical Analyses

Paralleling the continued emphasis and the increased application of longitudinal and experimental research design will be the increased and more appropriate use of multivariate statistical analyses.

The 1980s will emphasize such a trend because of two underlying currents that were beginning to appear in the late 1970s. First, behavioral scientists are beginning to realize that real organizations are not static phenomena. That is, organizations develop and change over time and they exert their impacts upon the dependent variables that we have studied as a system of components. The field is beginning to realize the need to recognize such realities in the analyses of our data. This realization rapidly forces us to multivariate analyses both with regard to the independent and

dependent variables included within our studies. This accounts for the increasing use that we have seen, and that I suspect will continue, of techniques such as MANOVA and the associated issues of the appropriate second-stage analyses given significant effects found through the application of MANOVA. Second, the realization that organizations impact dependent variables through systems of components brings us to the bruising reality of the multicollinearity among many of our cherished independent variables. It is apparent that much of our knowledge in organizational behavior in the 1980s will be dependent upon our ability to disentangle the effects of a number of jointly impacting independent variables that operate as a system. In this review we have noted the beginnings of this trend in the present scholarship on task design, feedback, and organizational structure.

Organizational Behaviors as Social Constructions of Reality

Several scholars are arguing that the only way to understand organizations and their effects is to study them as social constructions as opposed to objective realities. The position defines organizations as essentially phenomenological in essence. They exist only in the patterning and clustering of participants' perceptions.

Thus, to understand the effects that organizations exert upon individuals, one must shift the typical paradigm in organizational analysis to a focus upon the detailed, fine-grained analysis of

these perceptions.

This orientation toward organizations as social realities is likely to exert its impact in several areas of study in the 1980s. The most likely examples are the continued use of attribution models to study phenomena of leadership, performance appraisal, and job and organizational design. The emphasis upon the social construction and social transmission of the definition of realities in organizations gives added emphasis to information-processing and decision-making models as they apply to most phenomena that organizational psychologists are likely to study. We have already seen the beginnings of that trend in the literature on task design, organizational design, and control systems.

The Symbolic Nature of Management as a Process

We are also likely to witness an increased emphasis on the essentially symbolic nature of management as a process. This theme brings forth the importance of myths and stories in the management of organizations. In particular, the emphasis is likely to be on the importance of these phenomena in the creation and perpetuation of control systems within organizations.

Organizational behavior is very likely in the 1980s to study increasingly the processes of how these stories are collected and how the myths are created and transmitted from one generation of organizational participants to the next.

We will see increasing focus by organizational researchers

on the role that these myths, stories, and histories of organizations play in the socialization of new members entering organizations and on the decision-making processes that characterize the strategic levels within organizations.

Processes Linking Levels of Analysis

Organizational behavior will be advanced by focusing on processes that operate across levels of analysis that have been traditional within our field. For example, increasing emphasis is likely to be given to the context of individual behavior within organizations. As a second example, we are likely to see more intersection of the frameworks traditionally used in organizational sociology and the perspective of organizational psychology in studying the impact of environments upon organization. There has been work completed in the late 1970s suggesting that it is important to examine the processes that link levels of analysis. Certainly, topics in organizational behavior such as employee socialization, decision making, the behavioral modeling of leadership processes, and the transmission of values and decision premises across levels within organizations all call for understanding the processes that link individual and social system levels of analysis. Today, only a few areas within the discipline have benefited from this focus. The study of processes across levels of analysis will encourage, if not force, the incorporation of established theoretical framework into organizational behavior, e.g., interaction theory,

, socio-technical systems theory, and radical theories of organizational design. The emphasis on processes may even provide the stimulation for the development of original theories within organizational behavior itself.

Literature Cited

- Abdel-Halim, A. A. 1978. Employee affective responses to organizational stress: Moderating effects of job characteristics. Pers. Psychol. 31:561-579.
- Abdel-Halim, A. A. 1979. Individual and interpersonal moderators of employee reactions to job characteristics: A reexamination. Pers. Psychol. 32:121-137.
- Adams, E. F., Laker, D. R., Hulin, C. L. 1977. An investigation of the influence of job level and functional specialty on job attitudes and perceptions. J. Appl. Psychol. 62:335-343.
- Adelman, L. 1981. The influence of formal, substantive and contextual task properties on the relative effectiveness of different forms of feedback in multiple-cue probability learning tasks. Organ. Behav. & Hum. Perform. 27:423-442.
- Agarwal, N. C. 1979. On the interchangeability of size measures. Acad. Manage. J. 22:404-409.
- Albert, S. 1977. Temporal comparison theory. Psychol. Rev. 84:485-503.
- Alderfer, C. P., Guzzo, R. A. 1979. Life experiences and adults' enduring strength of desires in organizations. Adm. Sci. Q. 24:347-361.
- Aldrich, H., Herker, D. 1977. Boundary spanning roles and organization structure. Acad. Manage. Rev. 2:217-230.
- Alexander, E. R. 1979. The design of alternatives in organizational contexts: A pilot study. Adm. Sci. Q. 24:382-404.

- Allen, S. A. 1979. Understanding reorganizations of divisionalized companies. Acad. Manage. J. 22:641-671.
- Armenakis, A. A., Feild, H. S., Jr., Holley, W. H., Jr., Bedeian, A. G., Ledbetter, B., Jr. 1977. Human resource considerations in textile work redesign. Hum. Relat. 30:1147-1156.
- Arnold, H. J., House, R. J. 1980. Methodological and substantive extensions of the job characteristics model of motivation. Organ. Behav. & Hum. Perform. 25:161-183.
- Bacharach, S. B., Aiken, M. 1977. Communication in administrative bureaucracies. Acad. Manage. J. 20:365-377.
- Bandura, A. 1977. Self-efficacy: Toward a unifying theory of behavioral change. Psychol. Rev. 84:191-215.
- Becker, L. J. 1978. Joint effect of feedback and goal setting on performance: A field study of residential energy conservation. J. Appl. Psychol. 63:428-433.
- Beehr, T. A., Newman, J. E. 1978. Job stress, employee health, and organizational effectiveness: A facet analysis, model, and literature review. Pers. Psychol. 31:665-700.
- Benson, J. K. 1977. Organizations: A dialectical view. Adm. Sci. Q. 22:1-21.
- Berger, C. J., Cummings, L. L. 1979. Organizational structure, attitudes and behavior. In Research in Organizational Behavior, eds. B. M. Staw, L. L. Cummings, 1:169-208. Greenwich, CT: JAI Press.

- Beyer, J. M., Trice, H. M. 1979. A reexamination of the relations between size and various components of organizational complexity. Adm. Sci. Q. 24:48-64.
- Bhagat, R. S., Chassie, M. B. 1980. Effects of changes in job characteristics on some theory-specific attitudinal outcomes: Results from a naturally occurring quasi-experiment. Hum. Relat. 33: 297-313.
- Billings, R. S., Klimoski, R. J., Preaugh, J. A. 1977. The impact of a change in technology on job characteristics: A quasi-experiment. Adm. Sci. Q. 22:318-339.
- Binning, J. F., Lord, R. G. 1980. Boundary conditions for performance cue effects on group process ratings: Familiarity versus types of feedback. Organ. Behav. & Hum. Perform. 26:115-130.
- Blackburn, R. S., Cummings, L. L. 1981. Cognitions of work unit structure. Working paper. Center for the Study of Org. Perform., Univ. of Wis.-Madison. 43 pp.
- Bogart, D. H. 1980. Feedback, feedforward, and feedwithin: Strategic information in systems. Behav. Sci. 25:237-249.
- Bougon, M., Weick, K., Binkhorst, D. 1977. Cognition in organizations: An analysis of the Utrecht Jazz Orchestra. Adm. Sci. Q. 22:606-639.

- Bourgeois, L. J., III, McAllister, D. W., Mitchell, T. R. 1978.
The effects of different organizational environments upon decisions
about organizational structure. Acad. Manage. J. 21:508-514.
- Brief, A. P., Schuler, R. S., Van Sell, M. 1981. Managing job stress.
Boston: Little Brown.
- Brousseau, K. R. 1978. Personality and job experience. Organ. Behav. &
Hum. Perform. 22:235-252.
- Brown, R. H. 1978. Bureaucracy as proxis: Toward a political pheno-
menology of formal organizations. Adm. Sci. Q. 23:365-382.
- Calder, B. J., Schurr, P. H. 1981. Attitudinal processes in organizations.
In Research in Organizational Behavior, eds. L. L. Cummings, B. M.
Staw, 3:283-302. Greenwich, CT: JAI Press, 356 pp.
- Cameron, K. S. 1978. Assessing organizational effectiveness in insti-
tutions of higher education. Adm. Sci. Q. 23:604-632.
- Cameron, K. S. 1980. Critical questions in assessing organizational
effectiveness. Organ. Dyn. Autumn:66-80.
- Cameron, K. S. 1981. Domains of organizational effectiveness in
colleges and universities. Acad. Manage. J. 24:25-47.
- Carnall, C. A. 1977. Contingency theory and job design. In Organiza-
tional choice and constraint: Approaches to the sociology of
enterprise behavior, ed. M. Warner. Hants, England: Saxon House.

Champoux, J. E. 1978. A serendipitous field experiment in job design.

J. Vocat. Behav. 12:364-370.

Champoux, J. E. 1980. The world of nonwork: Some implications for job redesign efforts. Pers. Psychol. 33:61-75.

Champoux, J. E. 1981. The moderating effect of work context satisfactions on the curvilinear relationship between job scope and affective responses. Hum. Relat. In press.

Cherns, A. 1980. Structure and process: The succession of interventionist goals. J. Occup. Behav. 1:69-81.

Cherrington, D. J., England, J. L. 1980. The desire for nonenriched jobs as a moderator of the enrichment-satisfaction relationship. Organ. Behav. & Hum. Perform. 25:139-159.

Child, J. 1981. Culture, contingency and capitalism in the cross-national study of organizations. In Research in Organizational Behavior, eds. L. L. Cummings, B. M. Staw, 3:303-356. Greenwich, CT: JAI Press, 356 pp.

Clegg, C. W. 1979. The process of job redesign: Signposts from a theoretical orphanage? Hum. Relat. 32:999-1022.

Cohen, S. 1980. Aftereffects of stress on human performance and social behavior: A review of research and theory. Psychol. Bull. 38: 82-108.

Comstock, D. E., Scott, W. R. 1977. Technology and the structure of subunits: Distinguishing individual and workgroup effects. Adm. Sci. Q. 22:177-202.

Conlon, E. J. 1980. Feedback about personal and organizational outcomes and its effects on persistence of planned behavioral changes. Acad. Manage. J. 23:267-286.

- Connolly, T., Conlon, E. J., Deutsch, S. J. 1980. Organizational effectiveness: A multiple-constituency approach. Acad. Manage. Rev. 5:211-218.
- Cummings, L. L. 1981. Beyond VIE and information processing? A review of J. C. Naylor, R. D. Pritchard, and D. R. Ilgen. A theory of behavior in organizations. Contemp. Psychol. In press.
- Cummings, L. L. 1981. Organizational behavior in the 1980s. Decis. Sci. 12:365-377.
- Cummings, L. L., Staw, B. M. 1981. Research in organizational behavior, Vol. 3. Greenwich, CT: JAI Press, 356 pp.
- Cunningham, J. B. 1977. Approaches to the evaluation of organizational effectiveness. Acad. Manage. Rev. 2:463-474.
- Dachler, H. P., Wilpert, B. 1978. Conceptual dimensions and boundaries of participation in organizations: A critical evaluation. Adm. Sci. Q. 23:1-39.
- Daft, R. L., Bradshaw, P. J. 1980. The process of horizontal differentiation: Two models. Adm. Sci. Q. 25:441-450.
- Daft, R. L., Macintosh, N. B. 1981. A tentative exploration into the amount and equivocality of information processing in organizational work units. Adm. Sci. Q. 26:207-224.
- Daft, R. L., Wiginton, J. C. 1979. Language and organization. Acad. Manage. Rev. 4:179-192.

Dalton, D. R., Todor, W. D., Spendolini, M. J., Fielding, G. J., Porter, L. W. 1980. Organizations, structure and performance: A critical review. Acad. Manage. Rev. 5:49-64.

Dandridge, T. C., Mitroff, I., Joyce, W. F. 1980. Organizational symbolism: A topic to expand organizational analysis. Acad. Manage. Rev. 5:77-82.

Dewar, R., Hage, J. 1978. Size, technology, complexity and structural differentiation: Toward a theoretical synthesis. Adm. Sci. Q. 23:111-136.

Dewar, R. D., Simet, D. P. 1981. A level specific prediction of spans of control examining the effects of size, technology and specialization. Acad. Manage. J. 24:5-24.

Dewar, R., Werbel, J. 1979. Universalistic and contingency predictions of employee satisfaction and conflict. Adm. Sci. Q. 24:426-448.

Dewar, R. D., Whetten, D. A., Boje, D. 1980. An examination of the reliability and validity of the Aiken and Hage scales of centralization, formalization and task routineness. Adm. Sci. Q. 25:120-128.

Dossett, D. L., Latham, G. P., Mitchell, T. R. 1979. Effects of assigned versus participatively set goals, knowledge of results, and individual differences on employee behavior when goal difficulty is held constant. J. Appl. Psychol. 64:291-298.

- Dowell, B. E., Wexley, K. N. 1978. Development of a work behavior taxonomy for first-line supervisors. J. Appl. Psychol. 63:563-572.
- Dubin, R., Champoux, J. E. 1977. Central life interests and job satisfaction. Organ. Behav. & Hum. Perform. 18:366-377.
- Dunham, R. B. 1977. Reactions to job characteristics: Moderating effects of the organization. Acad. Manage. J. 20:42-65.
- Dunham, R. B. 1977. Relationships of perceived job design characteristics to job ability requirements and job value. J. Appl. Psychol. 62:760-763.
- Erez, M. 1977. Feedback: A necessary condition for the goal setting-performance relationship. J. Appl. Psychol. 62:624-627.
- Evans, M. G., Kiggundu, M. N., House, R. J. 1979. A partial test and extension of the job characteristics model of motivation. Organ. Behav. & Hum. Perform. 24:354-381.
- Feldman, J. M. 1981. Beyond attribution theory: Cognitive processes in performance appraisal. J. Appl. Psychol. 66:127-148.
- Fennell, M. L. 1980. The effects of environmental characteristics on the structure of hospital clusters. Adm. Sci. Q. 25:485-510.
- Fisher, C. D. 1979. Transmission of positive and negative feedback to subordinates: A laboratory investigation. J. Appl. Psychol. 64:533-540.
- Forbes, J. B., Barrett, G. V. 1978. Individual abilities and task demands in relation to performance and satisfaction on two repetitive monitoring tasks. J. Appl. Psychol. 63:188-196.

- Ford, J. D. 1979. Institutional versus questionnaire measures of organizational structure: A reexamination. Acad. Manage. J. 22:601-610.
- Ford, J. D., Slocum, J. W. 1977. Size, technology, environment and the structure of organizations. Acad. Manage. Rev. 2:561-575.
- Friend, K. E., Burns, L. R. 1977. Sources of variation in job satisfaction: Job size effects in a sample of the U.S. labor force. Pers. Psychol. 30:589-605.
- Ganster, D. C. 1980. Individual differences and task design: A laboratory experiment. Organ. Behav. & Hum. Perform. 26:131-148.
- Glisson, C. A., Martin, P. Y. 1980. Productivity and efficiency in human service organizations as related to structure, size, and age. Acad. Manage. J. 23:21-37.
- Goodman, P. S., Pennings, J. M., eds. 1977. New Perspectives on Organizational Effectiveness. San Francisco: Jossey-Bass. 275 pp.
- Gould, S. 1979. Age, job complexity, satisfaction, and performance. J. Vocat. Behav. 14:209-223.
- Green, S. G., Mitchell, T. R. 1979. Attributional processes of leaders in leader-member interactions. Organ. Behav. & Hum. Perform. 23: 429-458.
- Greller, M., Herold, D. 1975. Sources of feedback: A preliminary investigation. Organ. Behav. & Hum. Perform. 13:244-256.
- Greller, M. M. 1980. Evaluation of feedback sources as a function of role and organizational level. J. Appl. Psychol. 65:24-27.
- Griffin, R. W. 1979. Task design determinants of effective leader behavior. Acad. Manage. Rev. 4:215-224.

- Hackman, J. R. 1978. The design of work in the 1980s. Organ. Dyn. 7:3-17.
- Hackman, J. R., Lee, M. D. 1979. Redesigning Work: A Strategy for Change. Scarsdale, NY: Work in America Institute.
- Hackman, J. R., Oldham, G. R. 1980. Work Redesign. Reading, MA: Addison-Wesley.
- Hackman, J. R., Pearce, J. L., Wolfe, J. C. 1978. Effect of changes in job characteristics on work attitudes and behaviors: A naturally occurring quasi-experiment. Organ. Behav. & Hum. Perform. 21: 289-304.
- Hage, J. 1980. Theories of Organizations: Form, Processes and Transformation. New York: John Wiley.
- Hall, D. T., Goodale, J. G., Rabinowitz, S., Morgan, M. A. 1978. Effects of top-down departmental and job change upon perceived employee behavior and attitudes: A natural field experiment. J. Appl. Psychol. 63:62-72.
- Hambrick, D. C. 1981. Environment, strategy and power within top management teams. Adm. Sci. Q. 26:253-271.
- Hannan, M. T., Freeman, J. 1977. The population ecology of organizations. Am. J. Sociol. 82:929-964.
- Hanser, L. M., Muchinsky, P. M. 1978. Work as an information environment. Organ. Behav. & Hum. Perform. 21:47-60.
- Herold, D. M., Greller, M. M. 1977. Feedback: The definition of a construct. Acad. Manage. J. 20:142-147.

- Hunter, J., Gerbling, D. 1981. Unidimensional measurement, second order factor analysis and causal models. In Research in Organizational Behavior, Vol. 4, eds. B. M. Staw, L. L. Cummings. Greenwich, CT: JAI Press. In press.
- Ilgen, D. R., Fisher, C. D., Taylor, S. M. 1979. Consequences of individual feedback on behavior in organizations. J. Appl. Psychol. 64:359-371.
- Ilgen, D. R., Knowlton, W. A., Jr. 1980. Performance attributional effects on feedback from superiors. Organ. Behav. & Hum. Perform. 25:441-456.
- Ilgen, D. R., Mitchell, T. R., Fredrickson, J. W. 1981. Poor performers: Supervisors' and subordinates' responses. Organ. Behav. & Hum. Perform. 27:386-410.
- Ivancevich, J. M. 1978. The performance to satisfaction relationship: A causal analysis of stimulating and nonstimulating jobs. Organ. Behav. & Hum. Perform. 22:350-365.
- Ivancevich, J. M. 1979. High and low task stimulation jobs. A causal analysis of performance-satisfaction relationships. Acad. Manage. J. 22:206-222.
- Ivancevich, J. M., Matteson, M. T. 1980. Stress and Work. Glenview, IL: Scott, Foresman. 244 pp.
- Jago, A. G., Vroom, V. H. 1977. Hierarchical level and leadership style. Organ. Behav. & Hum. Perform. 18:131-145.
- Jamal, M., Mitchell, V. F. 1980. Work, nonwork and mental health: A model and a test. Ind. Relat. 19:88-93.

- James, L. R., Gent, M. J., Hater, J. J., Coray, K. E. 1979. Correlates of psychological influence: An illustration of the psychological climate approach to work environment perception. Pers. Psychol. 32:563-588.
- James, L. R., Jones, A. P. 1976. Organizational structure: A review of structural dimensions and their conceptual relationships with individual attitudes and behavior. Organ. Behav. & Hum. Perform. 16:74-113.
- James, L. R., Jones, A. P. 1980. Perceived job characteristics and job satisfaction: An examination of reciprocal causation. Pers. Psychol. 33:97-135.
- Johns, G. 1978. Task moderators of the relationship between leadership style and subordinate responses. Acad. Manage. J. 21:319-325.
- Kabanoff, B. 1980. Work and nonwork: A review of models, methods and findings. Psychol. Bull. 88:60-77.
- Karasek, R. A., Jr. 1979. Job demands, job decision latitude, and mental strain: Implications for job redesign. Adm. Sci. Q. 24:285-308.
- Karmel, B., ed. 1980. Point & Counterpoint in Organizational Behavior. Hinsdale, IL: Dryden Press. 154 pp.
- Katerberg, R., Hom, P. W., Hulin, C. L. 1979. Effects of job complexity on the reactions of part-time employees. Organ. Behav. & Hum. Perform. 24:317-332.

- Katz, R. 1978. The influence of job longevity on employee reactions to task characteristics. Hum. Relat. 8:703-726.
- Katz, R. 1978. Job longevity as a situational factor in job satisfaction. Adm. Sci. Q. 23:204-223.
- Katz, R. 1980. Time and work: Toward an integrative perspective. In Research in Organizational Behavior, eds. B. M. Staw, L. L. Cummings, 2:81-127. Greenwich, CT: JAI Press. 355 pp.
- Katz, R., Tushman, M. 1979. Communication patterns, project performance, and task characteristics: An empirical evaluation and integration in an R&D setting. Organ. Behav. & Hum. Perform. 23:139-162.
- Kelley, H. H., Michela, J. L. 1980. Attribution theory and research. In Annual Review of Psychology, eds. M. R. Rosenzweig, L. W. Porter, 31:457-502. Palo Alto, CA: Annual Reviews, Inc.
- Kerr, S., Slocum, J. W., Jr. 1981 Controlling the performances of people in organizations. In Handbook of Organizational Design, eds. P. C. Nystrom, W. H. Starbuck, 2:116-134. New York: Oxford University Press.
- Kidron, A. G. 1977. Individual characteristics as moderators of the job characteristic-satisfaction relationship. Proc. Acad. Manage. 37:21-75.
- Kim, J. S. 1980. Relationships of personality to perceptual and behavior responses in stimulating and nonstimulating tasks. Acad. Manage. J. 23:307-319.
- Kim, J. S., Schuler, R. S. 1979. The nature of the task as a moderator of the relationship between extrinsic feedback and employee responses. Acad. Manage. J. 22:157-162.

- Kimberly, J. R. 1976. Organizational size and the structuralist perspective: A review, critique and proposal. Adm. Sci. Q. 21:571-597.
- Kimberly, J. R. 1979. Issues in the creation of organizations: Initiation, innovation, and institutionalization. Acad. Manage. J. 22:437-457.
- Kirchhoff, B. A. 1977. Organization effectiveness measurement and policy research. Acad. Manage. Rev. 2:347-355.
- Komaki, J., Waddell, W. M., Pearce, M. G. 1977. The applied behavior analysis approach and individual employees: Improving performance in two small businesses. Organ. Behav. & Hum. Perform. 19:337-352.
- Leifer, R., Huber, G. P. 1977. Relations among perceived environmental uncertainty, organization structure, and boundary-spanning behavior. Adm. Sci. Q. 22:235-247.
- Locke, E. A., Feren, D. B., McCaleb, V. M. Shaw, K. N., Denny, A. T. 1980. The relative effectiveness of four methods of motivating employee performance. In Changes in Working Life, eds. K. D. Duncan, M. M. Gruneberg, D. Wallis, pp. 363-388. New York: John Wiley,
- Locke, E. A., Shaw, K. N., Saari, L. M., Latham, G. 1981. Goal setting and task performance: 1969-1980. Psychol. Bull. In press.

- London, M., Crandall, R., Seals, G. W. 1977. The contribution of job and leisure satisfaction to quality of life. J. Appl. Psychol. 62:328-334.
- Louis, M. R. 1980. Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. Adm. Sci. Q. 25:226-251.
- Lyles, M. A., Mitroff, I. I. 1980. Organizational problem formulation: An empirical study. Adm. Sci. Q. 25:102-119.
- Mahoney, T. A. 1979. Organizational hierarchy and position worth. Acad. Manage. J. 22:726-737.
- March, J. G., Feldman, M. S. 1981. Information in organizations as signal and symbol. Adm. Sci. Q. 26:171-186.
- Maurice, M., Sorge, A., Warner, M. 1980. Societal differences in organizing manufacturing units: A comparison of France, West Germany, and Great Britain. Organ. Stud. 1:59-86.
- Mealiea, L. W., Lee, D. 1979. An alternative to macro-micro contingency theories: An integrative model. Acad. Manage. Rev. 4:333-345.
- Meyer, J. W., Rowan, B. 1977. Institutional organization: Formal structure as myth and ceremony. Am. J. Sociol. 93:340-363.

- Miles, R. E., Snow, C. C., Meyer, A. D., Coleman, H. J., Jr. 1978.
Organizational strategy, structure and process. Acad. Manage. Rev.
3:546-562.
- Miller, D., Friesen, P. 1980. Archetypes of organizational transition.
Adm. Sci. Q. 25:268-299.
- Miner, J. B. 1980. Theories of Organizational Behavior. Hinsdale, IL:
The Dryden Press.
- Mitchell, T. R. 1979. Organizational behavior. In Annual Review of Psychology, eds. M. R. Rosenzweig, L. W. Porter, 30:243-282.
Palo, Alto, CA: Annual Reviews, Inc.
- Mitchell, T. R., Green, S. G., Wood, R. 1981. An attributional model
of leadership and the poor performing subordinate. In Research
in Organizational Behavior, eds. L. L. Cummings, B. M. Staw, 3:
197-234. Greenwich, CT: JAI Press. 356 pp.
- Mitchell, T. R., Larson, J. R., Jr., Green, S. G. 1977. Leader behavior,
situational moderators, and group performance: An attributional
analysis. Organ. Behav. & Hum. Perform. 18:254-268.
- Mitchell, T. R., Wood, R. E. 1980. Supervisor's responses to subordinate
poor performance: A test of an attributional model. Organ. Behav. &
Hum. Perform. 25:123-138.
- Moch, M. K. 1980. Job involvement, internal motivation, and employees
integration into networks of work relationships. Organ. Behav. &
Hum. Perform. 25:15-31.
- Molnar, J. J., Rogers, D. C. 1976. Organizational effectiveness: An
empirical comparison of the goal and system resource approaches.
Sociol. Q. 17:401-413.

- Morgan, G. 1980. Paradigms, metaphors, and puzzle solving in organization theory. Adm. Sci. Q. 25:605-622.
- Morris, J. H., Snyder, R. A. 1979. A second look at need for achievement and need for autonomy as moderators of role perception-outcome relationships. J. Appl. Psychol. 64:173-178.
- Morris, J. H., Steers, R. M., Koch, J. L. 1979. Influence of organization structure on role conflict and ambiguity for three occupational groupings. Acad. Manage. J. 22:58-71.
- Mowday, R. F., Stone, E. F., Porter, L. W. 1979. The interaction of personality and job scope in predicting turnover. J. Vocat. Behav. 15:78-89.
- Nadler, D. A. 1979. The effects of feedback on task group behavior: A review of the experimental research. Organ. Behav. & Hum. Perform. 23:309-338.
- Naylor, J. C., Pritchard, R. D., Ilgen, D. R. 1980. A Theory of Behavior in Organizations. New York: Academic Press.
- Near, J. P., Rice, R. W., Hunt, R. G. 1978. Work and extra-work correlates on life and job satisfaction. Acad. Manage. J. 21: 248-264.
- Near, J. P., Rice, R. W., Hunt, R. G. 1980. The relationships between work and nonwork domains: A review of empirical research. Acad. Manage. Rev. 5:415-429.

- Nemeroff, W. F., Cosentino, J. 1979. Utilizing feedback and goal setting to increase performance appraisal interviewer skills of managers. Acad. Manage. J. 22:566-576.
- Newman, J. E., Beehr, T. A. 1979. Personal and organizational strategies for handling job stress: A review of research and opinion. Pers. Psychol. 32:1-44.
- Nightingale, D. V., Toulouse, J. M. 1977. Toward a multilevel congruence theory of organization. Adm. Sci. Q. 22:264-280.
- Nystrom, P. C., Starbuck, W. H. 1981. Handbook of Organizational Design, Vols. 1, 2. New York: Oxford University Press. 560pp. 552pp.
- O'Connor, E. J., Rudolf, C. J., Peters, L. H. 1980. Individual differences and job design reconsidered: Where do we go from Here. Acad. Manage. Rev. 5:249-254.
- Oldham, G. R., Brass, D. J. 1979. Employee reactions to an open-office plan: A naturally occurring quasi-experiment. Adm. Sci. Q. 24: 267-284.
- Oldham, G. R., Hackman, J. R. 1980. Work design in the organizational context. In Research in Organizational Behavior, eds. B. M. Staw, L. L. Cummings. 2:247-278. Greenwich, CT: JAI Press. 355 pp.

- Oldham, G. R., Miller, H. E. 1979. The effect of significant other's job complexity on employee reactions to work. Hum. Relat. 32: 247-260.
- O'Reilly, C. 1977. Personality-job fit: Implications for individual attitudes and performance. Organ. Behav. & Hum. Perform. 18: 36-46.
- O'Reilly, C., Caldwell, D. F. 1979. Informational influence as a determinant of perceived task characteristics and job satisfaction. J. Appl. Psychol. 64:157-165.
- O'Reilly, C., Parlett, C., Bloom, J. 1980. Perceptual measures of task characteristics: The biasing effects of differing frames of reference and job attitudes. Acad. Manage. J. 23:118-131.
- Orpen, C. 1978. Work and nonwork satisfaction: A causal-correlational analysis. J. Appl. Psychol. 63:530-532.
- Orpen, C. 1979. The effects of job enrichment on employee satisfaction, motivation, involvement, and performance: A field experiment. Hum. Relat. 32:189-217.
- Ouchi, W.G. 1977. The relationship between organizational structure and organizational control. Adm. Sci. Q. 22:94-113.
- Ouchi, W. G. 1979. A conceptual framework for the design of organizational control mechanisms. Manage. Sci. 25:833-848.
- Ouchi, W. G. 1980. Markets, bureaucracies and clans. Adm. Sci. Q. 25:129-141.
- Ouchi, W. G. 1981 Theory Z: How American Business Can Meet the Japanese Challenge. Reading, MA: Addison-Wesley.

- Ouchi, W. G., Jaeger, A. M. 1978. Type Z organization: Stability in the midst of mobility. Acad. Manage. Rev. 3:305-314.
- Payne, J. W., Braunstein, M. L., Carroll, J. S. 1978. Exploring pre-decisional behavior: An alternative approach to decision research. Organ. Behav. & Hum. Perform. 22:17-44.
- Pennings, J. M., Goodman, P. S. 1977. Toward a workable framework. In New Perspectives on Organizational Effectiveness, eds. P. S. Goodman, J. M. Pennings, pp. 146-184. San Francisco: Jossey-Bass. 275 pp.
- Pfeffer, J. 1981. Management as symbolic action: The creation and maintenance of organizational paradigms. In Research in Organizational Behavior, eds. L. L. Cummings, B. M. Staw, 3:1-52. Greenwich, CT: JAI Press. 356 pp.
- Pfeffer, J., Lawler, J. 1980. Effects of job alternatives, extrinsic rewards, and behavioral commitment on attitude toward the organization: A field test of the insufficient, justification paradigm. Adm. Sci. Q. 25:38-56.
- Pfeffer, J., Salancik, G. R. 1977. Organizational context and the characteristics and tenure of hospital administrators. Acad. Manage. J. 20:74-88.
- Pfeffer, J., Salancik, G. R. 1978. The External Control of Organizations. New York: Harper & Row. 300 pp.

- Pierce, J. L. 1978. An empirical demonstration of the convergence of common macro- and micro-organization measures. Acad. Manage. J. 21:410-418.
- Pierce, J. L. 1979. Employee affective responses to work unit structure and job design: A test of an intervening variable. J. Manage. 5:193-211.
- Pierce, J. L., Dunham, R. B. 1976. Task design: A literature review. Acad. Manage. Rev. 1:83-97.
- Pierce, J. L., Dunham, R. B., Blackburn, R. S. 1979. Social systems structure, job design, and growth need strength: A test of a congruency model. Acad. Manage. J. 22:223-240.
- Pinder, C. C., Moore, L. F. 1979. The resurrection of taxonomy to aid the development of middle-range theories of organizational behavior. Adm. Sci. Q. 24:99-118.
- Pinder, C. C., Moore, L. F., eds. 1980. Middle-range Theory and the Study of Organizations. Boston: Martinus Nijhoff. 413 pp.
- Peters, R. A. 1980. Toward a contingency theory of multibusiness organization design. Acad. Manage. Rev. 5:203-210.
- Pondy, L., Mitroff, I. 1979. Beyond open systems models of organizations. In Research in Organizational Behavior, ed. B. M. Staw. 1:1-36. Greenwich, CT: JAI Press. 478 pp.

- Porter, L. W., Lawler, E. E., III, Hackman, J. R. 1975. Behavior in Organizations. New York: McGraw-Hill. 561 pp.
- Pritchard, R. D., Montagno, R. V. 1978. Effects of specific versus nonspecific and absolute versus comparative feedback on performance and satisfaction. Tech. Rep. # AFHRL-TR-78-12, Brooks AFB, TX.
- Pritchard, R. D., Montagno, R. V., Moore, J. R. Enhancing productivity through feedback and job design. Tech. Rep. # AFHRL-TR-78-44, Brooks AFB, TX.
- Rakestraw, T. L., Jr., Weiss, H. M. 1981. The interaction of social influence and task experience on goals, performance, and performance satisfaction. Organ. Behav. & Hum. Perform. 27:326-344.
- Ranson, S., Hinings, B., Greenwood, R. 1980. The structuring of organizational structures. Adm. Sci. Q. 25:1-17.
- Reimann, B. C. 1980. Organization structure and technology in manufacturing: System versus work flow level perspectives. Acad. Manage. J. 23:61-77.
- Roberts, K. H., Glick, W. 1981. The job characteristics approach to task design: A critical review. J. Appl. Psychol. 67:193-217.
- Roberts, K. H., Hulin, C. L., Rousseau, D. M. 1978. Developing an Interdisciplinary Science of Organizations. San Francisco: Jossey-Bass.
- Rousseau, D. M. 1977. Technological differences in job characteristics, employee satisfaction, and motivation: A synthesis of job design research and sociotechnical systems theory. Organ. Behav. & Hum. Perform. 19:18-42.

- Rousseau, D. M. 1978. Characteristics of departments, positions, and individuals: Contexts for attitudes and behavior. Adm. Sci. Q. 23:521-540.
- Rousseau, D. M. 1978. Measures of technology as predictors of employee attitudes. J. Appl. Psychol. 63:213-218.
- Rousseau, D. M. 1979. Assessment of technology in organizations: Closed versus open systems approaches. Acad. Manage. Rev. 4: 531-542.
- Salancik, G. R., Pfeffer, J. 1977. An examination of need satisfaction models of job attitudes. Adm. Sci. Q. 22:427-456.
- Salancik, G., Pfeffer, J. 1978. A social information processing approach to job attitudes and task design. Adm. Sci. Q. 23: 224-253.
- Sarason, I. G., Sarason, B. R. 1979. The importance of cognition and moderator variables in stress. In Personality at the Crossroads: Current Issues in Interactional Psychology, eds. D. Magnusson, N. S. Endler. Hillsdale, NJ: Erlbaum.
- Sathe, V. 1978. Institutional versus questionnaire measures of organizational structure. Acad. Manage. J. 21:227-238.
- Schmidt, F. L., Hunter, J. E., Pearlman, K. 1981. Task differences as moderators of aptitude test validity in selection: A red herring. J. Appl. Psychol. 66:166-185.
- Schmitt, N., Coyle, B. W., White, J. K., Rauschenberger, J. 1978. Background, needs, job perceptions and job satisfaction: A causal model. Pers. Psychol. 31:389-901.

- Schmitt, N., Mellon, P. M. 1980. Life and job satisfaction: Is the job central? J. Vocat. Behav. 16:51-88.
- Schneider, B., Parkington, J. J., Buxton, V. M. 1980. Employee and customer perceptions of service in banks. Adm. Sci. Q. 25:252-267.
- Schuler, R. S. 1977. The effects of role perceptions on employee satisfaction and performance moderated by employee ability. Organ. Behav. & Hum. Perform. 18:98-107.
- Schuler, R. S. 1977. Role conflict and ambiguity as a function of the task-structure-technology interaction. Organ. Behav. & Hum Perform. 20:66-74.
- Schwab, D. P. 1980. Construct validity in organizational behavior. In Research in Organizational Behavior, eds. B. M. Staw, L. L. Cummings, 2:3-43. Greenwich, CT: JAI Press. 355 pp.
- Schwab, D. P., Cummings, L. L. 1976. A theoretical analysis of the impact of task scope on employee performance. Acad. Manage. Rev. 1:23-35.
- Scott, W. E., Jr., Erskine, J. A. 1980. The effects of variations in task design and monetary reinforcers on task behavior. Organ. Behav. & Hum. Perf. 25:311-335.
- Scott, W. R. 1977. Effectiveness of organizational effectiveness studies. In New Perspectives on Organizational Effectiveness, eds. P. S. Goodman, J. M. Pennings, pp. 63-95. San Francisco: Jossey-Bass. 275 pp.

- Seligman, C., Darley, J. M. 1977. Feedback as a means of decreasing residential energy consumption. J. Appl. Psychol. 62:363-368.
- Shaw, J. B. 1980. An information-processing approach to the study of job design. Acad. Manage. Rev. 5:41-48.
- Sims, H. P., Szilagyi, A. D. 1976. Job characteristic relationships: Individual and structural moderators. Organ. Behav. & Hum. Perform. 17:211-230.
- Slocum, J. W., Jr., Sims, H. P. 1980. A typology for integrating technology, organization, and job design. Hum. Relat. 33:193-212.
- Snyder, M. 1979. Self-monitoring processes. In Advances in Experimental Social Psychology, ed. L. Berkowitz. 12:85-128. New York: Academic Press. 295 pp.
- Spector, P. E. 1978. Organizational frustration: A model and review of the literature. Pers. Psychol. 31:815-830.
- Stabell, C. B. 1978. Integrative complexity of information environment perception and information use: An empirical investigation. Organ. Behav. & Hum. Perform. 22:116-142.
- Staw, B. M., ed. 1979. Research in Organizational Behavior, Vol. 1. Greenwich, CT: JAI Press. 478 pp.
- Staw, B. M., Cummings, L. L. 1980, eds. Research in Organizational Behavior, Vol. 2. Greenwich, CT: JAI Press. 355 pp.

- Staw, B. M., Oldham, G. R. 1978. Reconsidering our dependent variables:
A critique and empirical study. Acad. Manage. J. 21:539-559.
- Staw, B. M., Ross, J. 1980. Commitment in an experimenting society:
A study of the attribution of leadership from administrative
scenarios. J. Appl. Psychol. 65:249-260.
- Steers, R. M. 1977. Organizational Effectiveness: A Behavioral View.
Santa Monica, CA: Goodyear Press.
- Steers, R. M., Spencer, D. G. 1977. The role of achievement motivation
in job design. J. Appl. Psychol. 62:472-479.
- Stone, E. F. Field independence and perceptions of task characteristics:
A laboratory investigation. J. Appl. Psychol. 64:305-310.
- Stone, E. F., Ganster, D. C., Woodman, R. W., Fusilier, M. R.
Relationships between growth need strength and selected individual
differences measures employed in job design research. J. Vocat.
Behav. 14:329-340.
- Stone, E. F., Mowday, R. T., Porter, L. W. 1977. Higher order need
strengths as moderators of the job scope-job satisfaction relation-
ship. J. Appl. Psychol. 62:466-471.
- Strang, H. R., Lawrence, E. C., Fowler, P. C. 1978. Effects of assigned
goal level and knowledge of results on arithmetic computation:
A laboratory study. J. Appl. Psychol. 63:446-450.
- Suedfeld, P., Rank, A. D. 1976. Revolutionary leaders: Long-term
success as a function of changes in conceptual complexity. J.
Persl. & Soc. Psychol. 34:109-178.

- Susman, G. L., Evered, R. D. 1978. An assessment of the scientific merits of action research. Adm. Sci. Q. 23:582-603.
- Sutton, R. I., Rousseau, D. M. 1979. Structure, technology and dependence on a parent organization: Organizational and environmental correlates of individual responses. J. Appl. Psychol. 64:675-687.
- Taylor, M. S. 1981. The motivational effects of task challenge: A laboratory investigation. Organ. Behav. & Hum. Perform. 27:255-278.
- Taylor, M. S., Slania, M. A. 1981. The moderating effects of chronic self-esteem upon the psychological success cycle. Presented at Ann. Meet. Midw. Psychol. Assn. Detroit.
- Terborg, J. R. 1977. Validation and extension of an individual differences model of work performance. Organ. Behav. & Hum. Perform. 18:188-216.
- Tung, R. L. 1979. Dimensions of organizational environments: An exploratory study of their impact on organization structure. Acad. Manage. J. 22:672-693.
- Tushman, M. L. 1979. Work characteristics and subunit communication structure: A contingency analysis. Adm. Sci. Q. 24:82-98.
- Tushman, M. L., Nadler, D. A. 1978. Information processing as an integrating concept in organizational design. Acad. Manage. Rev. 3:613-624.
- Tussie, F. D., Gerwin, D. 1980. An information processing model of organizational perception, strategy, and choice. Manage. Sci. 26:575-592.
- Umstot, D., Bell, C. H., Mitchell, T. R. 1976. Effects of job enrichment and task goals on satisfaction and productivity: Implications for job design. J. Appl. Psychol. 61:379-394.

- Umstot, D., Mitchell, T. R., Bell, C. H., Jr. 1978. Goal setting and job enrichment: An integrated approach to job design. Acad. Manage. Rev. 3:867-879.
- Van Maanen, J., ed. 1979. Qualitative methodology. Adm. Sci. Q. Spec. Issue, 24:519-671.
- Vardi, Y., Hammer, T. H. 1977. Intraorganizational mobility and career perceptions among rank and file employees in different technologies. Acad. Manage. J. 20:622-634.
- Wall, T. D., Clegg, C. W., Jackson, P. R. 1978. An evaluation of the job characteristics model. J. Occup. Psychol. 51:183-196.
- Walsh, J. T., Taber, T. D., Beehr, T. A. 1980. An integrated model of perceived job characteristics. Organ. Behav. & Hum. Perform. 25:252-267.
- Weed, S. E., Mitchell, T. R., 1980. The role of environmental and behavioral uncertainty as a mediator of situation-performance relationships. Acad. Manage. J. 23:38-60.
- Weiss, H. M. 1977. Subordinate imitation of supervisor behavior: The role of modeling in organizational socialization. Organ. Behav. & Hum. Perform. 19:89-105.

- Weiss, H. M. 1978. Social learning of work values in organizations. J. Appl. Psychol. 63:711-718.
- Weiss, H. M., Nowicki, C. E. 1981. Social influences on task satisfaction: Model competence and observer field dependence. Organ. Behav. & Hum. Perform. 27:345-366.
- Weiss, H. M., Shaw, J. B. 1979. Social influences on judgments about tasks. Organ. Behav. & Hum. Perform. 24:126-140.
- White, J. K. 1978. Generalizability of individual difference moderators of the participation in decision making-employee response relationship. Acad. Manage. J. 21:36-43.
- White, J. K. 1978. Individual differences in the job quality-worker response relationship: Review, integration and comments. Acad. Manage. Rev. 3:267-280.
- White, S. E., Mitchell, T. R. 1979. Job enrichment versus social cues: A comparison and competitive test. J. Appl. Psychol. 64:1-9.
- Winett, R. A., Kagel, J. H., Battalio, R. C., Winkler, R. C. 1978. Effects of monetary rebates, feedback, and information on residential electricity consumption. J. Appl. Psychol. 63:73-80.
- Zedeck, S. 1977. An information processing model and approach to the study of motivation. Organ. Behav. & Hum. Perform. 18:47-77.

DATE
ILME